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(FILE 'HOME' ENTERED AT 10:57:15 ON 12 MAY 2006)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 10:58:39 ON 12 MAY 2006

L1 8037 S TESTIS (2W) SPECIFIC
L2 1048 S TYROSINE (2W) LIGASE?
L3 7 S L1 AND L2
L4 3 DUP REM L3 (4 DUPLICATES REMOVED)
L5 7685185 S CLON? OR EXPRESS? OR RECOMBINANT
L6 221 S L2 AND L5
L7 75 S HUMAN AND L6
L8 45 DUP REM L7 (30 DUPLICATES REMOVED)
L9 22846 S "CPG ISLAND?"
L10 12 S L2 AND L9
L11 10 DUP REM L10 (2 DUPLICATES REMOVED)
E FEDER J N/AU
L12 187 S E3
E NELSON T C/AU
L13 130 S E3
E WU S/AU
L14 3643 S E3
E KRYSTEK S R/AU
L15 204 S E3-E12
L16 4127 S L12 OR L13 OR L14 OR L15
L17 2 S L2 AND L16

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NEWS 6 FEB 22 Updates in EPFULL; IPC 8 enhancements added
NEWS 7 FEB 27 New STN AnaVist pricing effective March 1, 2006
NEWS 8 MAR 03 Updates in PATDPA; addition of IPC 8 data without attributes
NEWS 9 MAR 08 X.25 communication option no longer available after June 2006
NEWS 10 MAR 22 EMBASE is now updated on a daily basis
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NEWS 12 APR 03 Bibliographic data updates resume; new IPC 8 fields and IPC
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NEWS 16 APR 12 Derwent World Patents Index to be reloaded and enhanced during
second quarter; strategies may be affected
NEWS 17 MAY 10 CA/CAPLUS enhanced with 1900-1906 U.S. patent records
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FILE 'LIFESCI' ENTERED AT 10:58:39 ON 12 MAY 2006
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=> s testis (2w) specific
L1 8037 TESTIS (2W) SPECIFIC

=> s tyrosine (2w) ligase?
L2 1048 TYROSINE (2W) LIGASE?

=> s l1 and l2
L3 7 L1 AND L2

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4 3 DUP REM L3 (4 DUPLICATES REMOVED)

=> d 1-3 ibib ab

| | | | |
|-------------------|--|----------------|-------------|
| L4 | ANSWER 1 OF 3 | MEDLINE on STN | DUPLICATE 1 |
| ACCESSION NUMBER: | 2006238451 | IN-PROCESS | |
| DOCUMENT NUMBER: | PubMed ID: 16443334 | | |
| TITLE: | The testis-specific apoptosis related gene TTL.6 underwent adaptive evolution in the lineage leading to humans. | | |
| AUTHOR: | Chen Xiao-hua; Shi Hong; Liu Xiao-Lin; Su Bing | | |
| CORPORATE SOURCE: | Key Laboratory of Cellular and Molecular Evolution, Kunming Institute of Zoology, The Chinese Academy of Sciences (CAS), Kunming, China. | | |
| SOURCE: | Gene, (2006 Mar 29) Vol. 370, pp. 58-63. Electronic Publication: 2006-01-27. Journal code: 7706761. ISSN: 0378-1119. | | |
| PUB. COUNTRY: | Netherlands | | |
| DOCUMENT TYPE: | Journal; Article; (JOURNAL ARTICLE) | | |
| LANGUAGE: | English | | |
| FILE SEGMENT: | NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals | | |
| OTHER SOURCE: | GENBANK-AY898275; GENBANK-AY898276; GENBANK-AY898277; GENBANK-AY898278; GENBANK-AY898279; GENBANK-AY898280; GENBANK-AY898281; GENBANK-AY898282; GENBANK-AY898283; GENBANK-AY898284; GENBANK-AY898285; GENBANK-AY898286; GENBANK-AY898287; GENBANK-AY898288; GENBANK-AY898289; GENBANK-AY898290; GENBANK-AY898291; GENBANK-AY898292; GENBANK-AY898293; GENBANK-AY898294; GENBANK-AY898295; GENBANK-AY898296; GENBANK-AY898297; GENBANK-AY898298; GENBANK-AY898299; GENBANK-AY898300; GENBANK-AY898301; GENBANK-AY898302; GENBANK-AY898303; GENBANK-AY898304; GENBANK-AY898305; GENBANK-AY898306; GENBANK-AY898307; GENBANK-AY898308; GENBANK-AY898309; GENBANK-AY898310; GENBANK-AY898311; GENBANK-AY898312; GENBANK-AY898313; GENBANK-AY898314; GENBANK-AY898315; GENBANK-AY898316; GENBANK-AY898317; GENBANK-AY898318; GENBANK-AY898319; GENBANK-AY898320; GENBANK-AY898321; GENBANK-AY898322; GENBANK-AY898323; GENBANK-AY898324; GENBANK-AY898325; GENBANK-AY898326; GENBANK-AY898327; GENBANK-AY898328; GENBANK-AY898329; GENBANK-AY898330; GENBANK-AY898331; GENBANK-AY898332; GENBANK-AY898333; GENBANK-AY898334; GENBANK-AY898335; GENBANK-AY898336; GENBANK-AY898337; GENBANK-AY898338; GENBANK-AY898339; GENBANK-AY898340; GENBANK-AY898341; GENBANK-AY898342; GENBANK-AY898343; GENBANK-AY898344; GENBANK-AY898345; GENBANK-AY898346; GENBANK-AY898347; GENBANK-AY898348; GENBANK-AY898349; GENBANK-AY898350; GENBANK-AY898351; GENBANK-AY898352; GENBANK-AY898353; GENBANK-AY898354; GENBANK-AY898355; GENBANK-AY898356; GENBANK-AY898357; GENBANK-AY898358; GENBANK-AY898359; GENBANK-AY898360; GENBANK-AY898361; GENBANK-AY898362; GENBANK-AY898363; GENBANK-AY898364; GENBANK-AY898365; GENBANK-AY898366; GENBANK-AY898367; GENBANK-AY898368; GENBANK-AY898369; GENBANK-AY898370; GENBANK-AY898371; GENBANK-AY898372; GENBANK-AY898373; GENBANK-AY898374; GENBANK-AY898375; GENBANK-AY898376; GENBANK-AY898377; GENBANK-AY898378; GENBANK-AY898379; GENBANK-AY898380; GENBANK-AY898381; GENBANK-AY898382; GENBANK-AY898383; GENBANK-AY898384; GENBANK-AY898385; GENBANK-AY898386; GENBANK-AY898387; GENBANK-AY898388; GENBANK-AY898389; GENBANK-AY898390; GENBANK-AY898391; GENBANK-AY898392; GENBANK-AY898393; GENBANK-AY898394; GENBANK-AY898395; GENBANK-AY898396; GENBANK-AY898397; GENBANK-AY898398; GENBANK-AY898399; GENBANK-AY898400; GENBANK-AY898401; GENBANK-AY898402; GENBANK-AY898403; GENBANK-AY898404; GENBANK-AY898405; GENBANK-AY898406; GENBANK-AY898407; GENBANK-AY898408; GENBANK-AY898409; GENBANK-AY898410; GENBANK-AY898411; GENBANK-AY898412; | | |

[illegible]

GENBANK-AY898605; GENBANK-AY898606; GENBANK-AY898607;
GENBANK-AY898608; GENBANK-AY898609; GENBANK-AY898610

ENTRY DATE: Entered STN: 2 May 2006
Last Updated on STN: 2 May 2006

AB The TTL.6 gene is a member of the tubulin-tyrosine ligase (TTL) family involved in apoptosis and preferentially expressed in the testis. We sequenced the coding region and part of the introns of TTL.6 in world wide human populations and five representative nonhuman primate species covering great apes, lesser ape and Old World monkey. The sequence substitution patterns of TTL.6 in primates demonstrated a sharp difference in evolutionary rates among different primate lineages. Our results indicated an accelerated evolution of TTL.6 in the human lineage, which was caused by Darwinian positive selection. Further analysis on sequence variations in human populations demonstrated an excess of derived common alleles, which was likely caused by genetic hitchhiking, an implication of recent positive selection on TTL.6 in human populations.

L4 ANSWER 2 OF 3 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
DUPLICATE 2

ACCESSION NUMBER: 2004-07314 BIOTECHDS

TITLE: New testis-specific tubulin
tyrosine-ligase-like BGS-42 polypeptide,
useful for preventing, treating or ameliorating a medical
condition, e.g. aberrant cellular proliferation, reproductive
disorders or testicular disorders;
involving vector-mediated gene transfer, expression in
host cell for use in gene therapy

AUTHOR: FEDER J N; WU S; NELSON T C

PATENT ASSIGNEE: BRISTOL-MYERS SQUIBB CO

PATENT INFO: WO 2004005487 15 Jan 2004

APPLICATION INFO: WO 2003-US21605 9 Jul 2003

PRIORITY INFO: US 2002-394725 9 Jul 2002; US 2002-394725 9 Jul 2002

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2004-099381 [10]

AB DERWENT ABSTRACT:

NOVELTY - A testis-specific tubulin tyrosine
-ligase-like polypeptide, designated BGS-42 polypeptide, is
new.

DETAILED DESCRIPTION - A testis-specific tubulin
tyrosine-ligase-like polypeptide, designated BGS-42
polypeptide comprises or consists of: (a) a polypeptide fragment, domain,
epitope or the full-length protein of a fully defined sequence of 541
amino acids (I), as given in the specification, or the encoded sequence
included in ATCC Deposit Number PTA-4454, having tyrosine
tubulin ligase activity; (b) a polypeptide comprising amino
acids 2-541 of the sequence of (I), where the amino acids 2-541 comprises
a polypeptide of (I) minus the start methionine; (c) a polypeptide
comprising amino acids 1-541 or 73-365 of the sequence of (I); or (d) a
polypeptide comprising at least 424 contiguous amino acids of the
sequence of (I). INDEPENDENT CLAIMS are also included for: (1) an
isolated nucleic acid molecule comprising or consisting of: (a) a
polynucleotide fragment of 1838 bp (II), fully defined in the
specification, or a polynucleotide fragment of the cDNA sequence included
in ATCC Deposit Number PTA-4454, which is hybridizable to the sequence of
(II); (b) a polynucleotide encoding a polypeptide fragment, domain,
epitope or the full-length protein of the sequence of (I), or a
polypeptide fragment, domain or epitope encoded by the cDNA sequence
included in ATCC Deposit Number PTA-4454, which is hybridizable to the
sequence of (II), having tyrosine tubulin ligase
activity; (c) a polynucleotide which is a variant or an allelic variant
of (II); (d) nucleotides 156-1775 of the sequence of (II), where the
nucleotides encode a polypeptide corresponding to amino acids 2-541 of

(I) minus the start methionine; (e) nucleotides 153-1775 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 1-541 of (I) including the start codon; (f) nucleotides 369-1247 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 73-365 of (I); (g) a polynucleotide that encodes at least 424 contiguous amino acids of (I); (h) at least 1272 contiguous nucleotides of (II); (i) a polynucleotide which represents the complementary sequence (antisense) of (II); (j) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides above, where the polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A or only T residues; (k) a polynucleotide comprising or consisting of the BGS-42 gene or BGS-42 promoter; or (l) a nucleotide sequence of 2241 bp, fully defined in the specification; (2) a recombinant vector comprising the isolated nucleic acid molecule; (3) an isolated antibody that binds specifically to BGS-42 polypeptide; (4) a recombinant host cell comprising the vector sequences, or expressing the BGS-42 polypeptide; (5) making an isolated polypeptide; (6) preventing, treating or ameliorating a medical condition; and (7) diagnosing a pathological condition or a susceptibility to a pathological condition in a subject.

WIDER DISCLOSURE - Also disclosed are screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides, and methods of controlling the expression of the polypeptide.

BIOTECHNOLOGY - Preparation (claimed): The BGS-42 polypeptide is prepared by standard recombinant methods. Making an isolated polypeptide comprises culturing the recombinant host cell under conditions such that the polypeptide is expressed, and recovering the polypeptide. Preferred Polypeptide: The full-length protein comprises sequential amino acid deletions from the C-terminus or the N-terminus. Preferred Nucleic Acid: The polynucleotide fragment consists of a nucleotide sequence encoding a human tyrosine tubulin ligase. Preferred Method:

Preventing, treating or ameliorating a medical condition comprises administering to a mammalian subject a therapeutic amount of the BGS-42 polypeptide or its modulator. Diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprises determining the presence or absence of a mutation in the polynucleotide cited above, and diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of the mutation. Alternatively, the method comprises determining the presence or amount of expression of the BGS-42 polypeptide in a tyrosine tubulin ligase sample, and diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

ACTIVITY - Cytostatic; Respiratory-Gen.; Gastrointestinal-Gen.; Neuroprotective; Endocrine-Gen.; Antiinflammatory; Anabolic; Hypertensive; Osteopathic; Nootropic; Antiparkinsonian; Antiarthritic; Antiasthmatic; Anti-HIV; Antibacterial; Immunosuppressive; Antiseborrheic; Dermatological. No biological data given.

MECHANISM OF ACTION - Tyrosine Ligase Modulator; Gene Therapy. No biological data given.

USE - The BGS-42 polypeptide or polynucleotide can be used for diagnosing a pathological condition or a susceptibility to a pathological condition in a subject, and for preventing, treating or ameliorating a medical condition, such as a disorder related to aberrant tubulin ligase activity, a disorder related to aberrant tubulin-carboxypeptidase activity, aberrant cellular proliferation, reproductive disorders, testicular disorders, testicular cancer, pulmonary disorders, lung cancer, gastrointestinal disorders, colon cancer, stomach cancer, neural disorders, brain cancer, liver cancer, or proliferative condition of the testis, lung, small intestine, brain or lymph tissue (all claimed). The BGS-42 polypeptide, polynucleotide, or their modulators are also useful for treating infertility, Cushing's syndrome, emphysema, pneumonia,

Addison's disease, acromegaly, Alzheimer's disease, or Parkinson's disease. The BGS-42 polypeptide can be used as a preventive agent for immunological disorders including arthritis, asthma, AIDS, sepsis, acne, Sjogren's disease or scleroderma. The antibodies may be used to purify, detect and target the BGS-42 polypeptides.

ADMINISTRATION - Administration of the antibody is 0.1-100 (preferably 1-10) mg/kg, intradermally, intramuscularly, intraperitoneally, intravenously, subcutaneously, intranasally, epidurally, intraventricularly, intrathecally, topically, orally, or rectally.

EXAMPLE - A polynucleotide encoding a BGS-42 polypeptide was amplified using PCR oligonucleotide primers corresponding to the 5' and 3' ends of the DNA sequence to synthesize insertion fragments. The pQE-9 vector was digested with BamHI and XbaI and the amplified fragment was ligated into the pQE-9 vector maintaining the reading frame initiated at the bacterial ribosome-binding site. The ligation mixture was used to transform Escherichia coli strain M15/rep4. Transformants were identified by their ability to grow on LB (Luria bertani) plates, and ampicillin/kanamycin-resistant colonies were selected. Clones containing the desired constructs were grown overnight in liquid culture, i.e. LB media, supplemented with both ampicillin and kanamycin. Isopropyl-B-D-thiogalacto pyranoside (IPTG) was added to induce gene expression. Cells were grown for an extra 3-4 hours, and cells were harvested by centrifugation. The cell pellet obtained by centrifugation was solubilized, and the solubilized BGS-42 protein was purified using a metal chelating column under conditions that allow tight binding of the protein. (343 pages)

L4 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:722839 HCAPLUS

DOCUMENT NUMBER: 141:238811

TITLE: Protein and cDNA sequences of a novel human
testis-specific tubulin
tyrosine ligase like protein BGS-42,
and diagnostic and therapeutic use

INVENTOR(S): Feder, John N.; Nelson, Thomas C.; Wu, Shujian;
Krystek, Stanley R.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 199 pp., Cont.-in-part of U.S.
Ser. No. 615,659.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004171131 | A1 | 20040902 | US 2003-635977 | 20030807 |
| US 2004157234 | A1 | 20040812 | US 2003-615659 | 20030709 |
| PRIORITY APPLN. INFO.: | | | US 2002-394725P | P 20020709 |
| | | | US 2003-615659 | A2 20030709 |

AB The present invention provides novel polynucleotides encoding BGS-42 polypeptides, fragments and homologues thereof Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel BGS-42 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

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L1 8037 S TESTIS (2W) SPECIFIC
L2 1048 S TYROSINE (2W) LIGASE?
L3 7 S L1 AND L2
L4 3 DUP REM L3 (4 DUPLICATES REMOVED)

=> s clon? or express? or recombinant

L5 7685185 CLON? OR EXPRESS? OR RECOMBINANT

=> s l2 and l5

L6 221 L2 AND L5

=> s human and l6

L7 75 HUMAN AND L6

=> dup rem l7

PROCESSING COMPLETED FOR L7

L8 45 DUP REM L7 (30 DUPLICATES REMOVED)

=> d 1-45 ibib ab

L8 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:234798 HCAPLUS

DOCUMENT NUMBER: 144:310079

TITLE: Genes showing changes in levels of gene
expression in renal tubule injury induced by
poisoning and their toxicological use

INVENTOR(S): Natsoulis, Georges; Fielden, Mark; Jarnagin, Kurt;
Kolaja, Kyle

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 40 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|-----------------|----------|
| US 2006057066 | A1 | 20060316 | US 2005-184272 | 20050718 |
| WO 2006033701 | A2 | 20060330 | WO 2005-US25890 | 20050719 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |

PRIORITY APPLN. INFO.: US 2004-589409P P 20040719

US 2005-184272 A 20050718

AB A set of 186 genes that show changes in levels of gene expression in in renal tubules in response to poisoning are identified for use as markers in screening for substances capable of causing renal tubule injury. The invention also provides a necessary set of 186 genes useful for generating signatures of varying size and performance capable of

predicting onset of renal tubule injury. The invention also provides methods, apparatuses and reagents useful for predicting future renal tubule injury based on **expression** levels of genes in the signatures. In one particular embodiment the invention provides a method for predict whether a compound will induce renal tubule injury using gene **expression** data from sub-acute treatments.

L8 ANSWER 2 OF 45 MEDLINE on STN DUPLICATE 1
 ACCESSION NUMBER: 2006059636 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 16429158
 TITLE: Disrupted function and axonal distribution of mutant tyrosyl-tRNA synthetase in dominant intermediate Charcot-Marie-Tooth neuropathy.
 AUTHOR: Jordanova Albena; Irobi Joy; Thomas Florian P; Van Dijck Patrick; Meerschaert Kris; Dewil Maarten; Dierick Ines; Jacobs An; De Vriendt Els; Guergueltscheva Velina; Rao Chitharanjan V; Tournev Ivailo; Gondim Francisco A A; D'Hooghe Marc; Van Gerwen Veerle; Callaerts Patrick; Van Den Bosch Ludo; Timmermans Jean-Pierre; Robberecht Wim; Gettemans Jan; Thevelein Johan M; De Jonghe Peter; Kremensky Ivo; Timmerman Vincent
 CORPORATE SOURCE: Department of Molecular Genetics, Flanders Interuniversity Institute for Biotechnology, University of Antwerp, Universiteitsplein 1, 2610 Antwerpen, Belgium.
 SOURCE: Nature genetics, (2006 Feb) Vol. 38, No. 2, pp. 197-202. Electronic Publication: 2006-01-22. Journal code: 9216904. ISSN: 1061-4036.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: GENBANK-NM004102; GENBANK-NM004814; GENBANK-NM005610; GENBANK-NM012392; GENBANK-NM014676; GENBANK-NM023009; GENBANK-NM030786; GENBANK-NM052896; GENBANK-NM145238; GENBANK-NP003680; GENBANK-NP011701; GENBANK-NP247363; GENBANK-NP598912; GENBANK-NT004511; SWISSPROT-P00952
 ENTRY MONTH: 200604
 ENTRY DATE: Entered STN: 31 Jan 2006
 Last Updated on STN: 5 Apr 2006
 Entered Medline: 4 Apr 2006
 AB Charcot-Marie-Tooth (CMT) neuropathies are common disorders of the peripheral nervous system caused by demyelination or axonal degeneration, or a combination of both features. We previously assigned the locus for autosomal dominant intermediate CMT neuropathy type C (DI-CMTC) to chromosome 1p34-p35. Here we identify two heterozygous missense mutations (G41R and E196K) and one de novo deletion (153-156delVKQV) in tyrosyl-tRNA synthetase (YARS) in three unrelated families affected with DI-CMTC. Biochemical experiments and genetic complementation in yeast show partial loss of aminoacylation activity of the mutant proteins, and mutations in YARS, or in its yeast ortholog TYS1, reduce yeast growth. YARS localizes to axonal termini in differentiating primary motor neuron and neuroblastoma cultures. This specific distribution is significantly reduced in cells **expressing** mutant YARS proteins. YARS is the second aminoacyl-tRNA synthetase found to be involved in CMT, thereby linking protein-synthesizing complexes with neurodegeneration.

L8 ANSWER 3 OF 45 MEDLINE on STN DUPLICATE 2
 ACCESSION NUMBER: 2006238451 IN-PROCESS
 DOCUMENT NUMBER: PubMed ID: 16443334
 TITLE: The testis-specific apoptosis related gene TTL.6 underwent adaptive evolution in the lineage leading to humans
 .
 AUTHOR: Chen Xiao-hua; Shi Hong; Liu Xiao-Lin; Su Bing
 CORPORATE SOURCE: Key Laboratory of Cellular and Molecular Evolution, Kunming

Institute of Zoology, The Chinese Academy of Sciences (CAS), Kunming, China.

SOURCE: Gene, (2006 Mar 29) Vol. 370, pp. 58-63. Electronic Publication: 2006-01-27.
Journal code: 7706761. ISSN: 0378-1119.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals

OTHER SOURCE: GENBANK-AY898275; GENBANK-AY898276; GENBANK-AY898277;
GENBANK-AY898278; GENBANK-AY898279; GENBANK-AY898280;
GENBANK-AY898281; GENBANK-AY898282; GENBANK-AY898283;
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 GENBANK-AY898602; GENBANK-AY898603; GENBANK-AY898604;
 GENBANK-AY898605; GENBANK-AY898606; GENBANK-AY898607;
 GENBANK-AY898608; GENBANK-AY898609; GENBANK-AY898610

ENTRY DATE:

Entered STN: 2 May 2006

Last Updated on STN: 2 May 2006

AB The TTL.6 gene is a member of the tubulin-tyrosine
 ligase (TTL) family involved in apoptosis and preferentially
 expressed in the testis. We sequenced the coding region and part
 of the introns of TTL.6 in world wide human populations and five
 representative nonhuman primate species covering great apes, lesser ape

and Old World monkey. The sequence substitution patterns of TTL.6 in primates demonstrated a sharp difference in evolutionary rates among different primate lineages. Our results indicated an accelerated evolution of TTL.6 in the human lineage, which was caused by Darwinian positive selection. Further analysis on sequence variations in human populations demonstrated an excess of derived common alleles, which was likely caused by genetic hitchhiking, an implication of recent positive selection on TTL.6 in human populations.

L8 ANSWER 4 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2005:156228 HCAPLUS
Correction of: 2005:16967
DOCUMENT NUMBER: 142:192331
Correction of: 142:108390
TITLE: Quantitative RT-PCR method for the detection in blood of microarray-identified rheumatoid arthritis-related gene transcripts for diagnosing and monitoring disease state
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 81 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2005003394 | A1 | 20050106 | US 2004-812782 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood for diagnosing and monitoring diseases. The present invention demonstrates that a simple drop of blood may be used to determine the quant. expression of various mRNAs that reflect the health/disease state of the subject through the use of quant. reverse transcription-polymerase chain reaction (QRT-PCR) anal. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring rheumatoid arthritis using gene-specific and/or tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L8 ANSWER 5 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1311496 HCAPLUS
DOCUMENT NUMBER: 144:49649
TITLE: Association of gene expression profiles with asthma in peripheral blood cells
INVENTOR(S): Kachalsky, Sylvia G.; Horev, Guy
PATENT ASSIGNEE(S): Linkagene Ltd., Israel

SOURCE: PCT Int. Appl., 74 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 2005118403 | A2 | 20051215 | WO 2005-IL590 | 20050605 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |

PRIORITY APPLN. INFO.: US 2004-576599P P 20040604

AB The present invention relates to methods of identifying biomarkers for disease, which comprise measuring gene **expression** levels in subpopulations of blood cells obtained from subjects of closed populations. Particularly, the present invention relates to methods of diagnosing, monitoring and prognosing diseases comprising determining **expression** levels of disease-specific genes. Thus, a library of about 41,500 cDNA clones derived from the I.M.A.G.E consortium was printed in microarrays comprising the whole transcriptome and used to screen RNA isolated from leukocytes from a Cochin Jewish population known as susceptible to high occurrences of asthma. Comparison of **expression** profiles from asthma and non-asthma individuals identified 783 biomarker transcripts for asthma.

L8 ANSWER 6 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:984082 HCAPLUS

DOCUMENT NUMBER: 143:280551

TITLE: Human glucocorticoid receptor coactivator
 STAMP modulating glucocorticoid-responsive gene
expression, its orangutan and green monkey
 homolog, and therapeutic use thereof

INVENTOR(S): Simons, S. Stoney, Jr.; He, Yuanzheng

PATENT ASSIGNEE(S): Government of the United States of America as
 Represented by the Secretary of the Department of
 Health and Human Services, USA

SOURCE: PCT Int. Appl., 235 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 2005082935 | A1 | 20050909 | WO 2005-US6393 | 20050225 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, | | | | |

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-548039P P 20040226

AB The invention provides a new glucocorticoid receptor (GR) coactivator named STAMP (SRC-1 and TIF2 Associated Modulatory Protein) that can modulate transcription of glucocorticoid-responsive genes. The isolated STAMP gene is located on chromosome 14q24.3 and contains 32 introns, and its encodes a 1277 amino acid protein (predominant form, with predicted mol. weight of 143 kDa) or a 1281 amino acid protein with four extra amino acid at N-terminus. Activity of STAMP in GR-mediated induction. STAMP and TIF2 act cooperatively to modulate glucocorticoid receptor activity and STAMP activity requires the RID (receptor interaction domain) domains (around residues 834-1277) that mediate TIF2 binding to GR and/or STAMP. Also provided are siRNAs shown to inhibit STAMP actions. The invention also provides antibodies that can bind STAMP and modulate its activity. In addition, the invention provides antisense, ribozyme and siRNA STAMP nucleic acids that can modulate the expression of STAMP. Also provided are compns. and methods for modulating glucocorticoid-responsive gene expression and for treating a variety of diseases and conditions.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2005:497356 HCAPLUS

DOCUMENT NUMBER: 143:39118

TITLE: Gene expression profiling for diagnosis, prognosis, and therapy of osteoarthritis and other diseases using microarrays

INVENTOR(S): Liew, Choong-chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 157 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2005123938 | A1 | 20050609 | US 2004-809675 | 20040325 |
| US 2004037841 | A1 | 20040226 | US 2002-85783 | 20020228 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004248169 | A1 | 20041209 | US 2004-812737 | 20040330 |
| AU 2004249318 | A1 | 20041229 | AU 2004-249318 | 20040621 |
| CA 2530191 | AA | 20041229 | CA 2004-2530191 | 20040621 |
| WO 2004112589 | A2 | 20041229 | WO 2004-US20836 | 20040621 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,

SN, TD, TG
 EP 1643893 A2 20060412 EP 2004-785715 20040621
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
 PRIORITY APPLN. INFO.: US 1999-115125P P 19990106
 US 2000-477148 B1 20000104
 US 2001-271955P P 20010228
 US 2001-275017P P 20010312
 US 2001-305340P P 20010713
 US 2002-85783 A2 20020228
 US 2002-268730 A2 20021009
 US 2003-601518 A2 20030620
 US 2004-802875 A2 20040312
 US 2004-809675 A 20040325
 WO 2004-US20836 W 20040621

AB The present invention relates to gene **expression** profiling for diagnosis, prognosis and therapy of osteoarthritis and other diseases using microarray methods. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially **expressed** gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention also describes methods by which delineation of the sequence and/or quantitation of the **expression** levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

L8 ANSWER 8 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:325595 HCAPLUS
 DOCUMENT NUMBER: 142:353388
 TITLE: Gene **expression** profiles and biomarkers for the detection of Alzheimer's disease-related and other disease-related gene transcripts in blood
 INVENTOR(S): Liew, Choong-chin
 PATENT ASSIGNEE(S): Chondrogene Ltd., Can.
 SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 29
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2005079514 | A1 | 20050414 | US 2004-812827 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular Alzheimer's disease, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L8 ANSWER 9 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:160724 HCAPLUS

DOCUMENT NUMBER: 142:259424

TITLE: Gene expression profiles and biomarkers for the detection of asthma-related and other disease-related gene transcripts in blood

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 156 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2005042630 | A1 | 20050224 | US 2004-816357 | 20040401 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular asthma, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of three records for this document necessitated by the large number of index

entries required to fully index the document and publication system constraints.]].

L8 ANSWER 10 OF 45 MEDLINE on STN
ACCESSION NUMBER: 2005148373 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15779907
TITLE: Toward the full set of human mitochondrial
aminoacyl-tRNA synthetases: characterization of AspRS and
TyrRS.
AUTHOR: Bonnefond Luc; Fender Aurelie; Rudinger-Thirion Joelle;
Giege Richard; Florentz Catherine; Sissler Marie
CORPORATE SOURCE: Department Mecanismes et Macromolecules de la Synthese
Proteique et Cristallogenese, UPR 9002, Institut de
Biologie Moleculaire et Cellulaire du CNRS, 15 rue Rene
Descartes, F-67084 Strasbourg Cedex, France.
SOURCE: Biochemistry, (2005 Mar 29) Vol. 44, No. 12, pp. 4805-16.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200506
ENTRY DATE: Entered STN: 23 Mar 2005
Last Updated on STN: 10 Jun 2005
Entered Medline: 9 Jun 2005

AB The human mitochondrion possesses a translational machinery
devoted to the synthesis of 13 proteins. While the required tRNAs and
rRNAs are produced by transcription of the mitochondrial genome, all other
factors needed for protein synthesis are synthesized in the cytosol and
imported. This is the case for aminoacyl-tRNA synthetases, the enzymes
which esterify their cognate tRNA with the specific amino acid. The genes
for the full set of cytosolic aaRSs are well defined, but only nine genes
for mitochondrial synthetases are known. Here we describe the genes for
human mitochondrial aspartyl- and tyrosyl-tRNA synthetases and the
initial characterization of the enzymes. Both belong to the expected
class of synthetases, have a dimeric organization, and aminoacylate
Escherichia coli tRNAs as well as in vitro transcribed human
mitochondrial tRNAs. Genes for the remaining missing synthetases were
also found with the exception of glutamyl-tRNA synthetase. Their
sequence analysis confirms and further extends the view that, except for
lysyl- and glycyl-tRNA synthetases, human mitochondrial and
cytosolic enzymes are coded by two different sets of genes.

L8 ANSWER 11 OF 45 MEDLINE on STN
ACCESSION NUMBER: 2005313865 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15890843
TITLE: Tubulin polyglutamylase enzymes are members of the TTL
domain protein family.
AUTHOR: Janke Carsten; Rogowski Krzysztof; Wloga Dorota; Regnard
Catherine; Kajava Andrey V; Strub Jean-Marc; Temurak
Nevzat; van Dijk Juliette; Boucher Dominique; van
Dorsselaer Alain; Suryavanshi Swati; Gaertig Jacek; Edde
Bernard
CORPORATE SOURCE: Centre de Recherches de Biochimie Macromoleculaire, CNRS,
34293 Montpellier, France.
SOURCE: Science, (2005 Jun 17) Vol. 308, No. 5729, pp. 1758-62.
Electronic Publication: 2005-05-12.
Journal code: 0404511. E-ISSN: 1095-9203.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200506
ENTRY DATE: Entered STN: 18 Jun 2005

Last Updated on STN: 1 Jul 2005

Entered Medline: 30 Jun 2005

AB Polyglutamylation of tubulin has been implicated in several functions of microtubules, but the identification of the responsible enzyme(s) has been challenging. We found that the neuronal tubulin polyglutamylase is a protein complex containing a tubulin tyrosine ligase-like (TTL) protein, TTL1. TTL1 is a member of a large family of proteins with a TTL homology domain, whose members could catalyze ligations of diverse amino acids to tubulins or other substrates. In the model protist *Tetrahymena thermophila*, two conserved types of polyglutamylases were characterized that differ in substrate preference and subcellular localization.

L8 ANSWER 12 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2005:412589 SCISEARCH

THE GENUINE ARTICLE: 914YX

TITLE: 3-Nitrotyrosine attenuates respiratory syncytial virus infection in human bronchial epithelial cell line

AUTHOR: Huang Y C T (Reprint); Li Z W; Brighton L E; Carson J L; Becker S; Soukup J M

CORPORATE SOURCE: CB 7315, 104 Mason Farm Rd, Chapel Hill, NC 27599 USA (Reprint); US EPA, Natl Hlth & Environm Effects Res Lab, Off Res & Dev, Res Triangle Pk, NC 27711 USA; Univ N Carolina, Ctr Environm Med Asthma & Lung Biol, Chapel Hill, NC USA
huang.tony@epa.gov

COUNTRY OF AUTHOR: USA

SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY, (MAY 2005) Vol. 288, No. 5, pp. L988-L996.
ISSN: 1040-0605.

PUBLISHER: AMER PHYSIOLOGICAL SOC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814 USA.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 55

ENTRY DATE: Entered STN: 28 Apr 2005

Last Updated on STN: 28 Apr 2005

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB 3-Nitrotyrosine (NO₂Tyr), an L-tyrosine derivative during nitrative stress, can substitute the COOH-terminal tyrosine of alpha-tubulin, posttranslationally altering microtubular functions. Because infection of the cells by respiratory syncytial virus (RSV) may require intact microtubules, we tested the hypothesis that NO₂Tyr would inhibit RSV infection and intracellular signaling via nitrotyrosination of alpha-tubulin. A human bronchial epithelial cell line (BEAS-2B) was incubated with RSV with or without NO₂Tyr. The release of chemokines and viral particles and activation of interferon regulatory factor-3 (IRF-3) were measured. Incubation with NO₂Tyr increased nitrotyrosinated alpha-tubulin, and NO₂Tyr colocalized with microtubules. RSV-infected cells released viral particles, RANTES, and IL-8 in a time- and dose-dependent manner, and intracellular RSV proteins coprecipitated with alpha-tubulin. NO₂Tyr attenuated the RSV-induced release of RANTES, IL-8, and viral particles by 50-90% and decreased alpha-tubulin-associated RSV proteins. 3-Chlorotyrosine, another L-tyrosine derivative, had no effects. NO₂Tyr also inhibited the RSV-induced shift of the unphosphorylated form I of IRF-3 to the phosphorylated form II. Pre-exposure of the cells to NO₂ (0.15 ppm, 4 h), which produced diffuse protein tyrosine nitration, did not affect RSV-induced release of RANTES, IL-8, or viral particles. NO₂Tyr did not affect the potential of viral spreading to the neighboring cells since the RSV titers were not decreased when the uninfected cells were cocultured with the preinfected cells in NO₂Tyr-containing medium. These results indicate that NO₂Tyr, by

replacing the COOH-terminal tyrosine of alpha-tubulin, attenuated RSV infection, and the inhibition appeared to occur at the early stages of RSV infection.

L8 ANSWER 13 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2005361787 EMBASE
TITLE: Protein photo-cross-linking in mammalian cells by site-specific incorporation of a photoreactive amino acid.
AUTHOR: Hino N.; Okazaki Y.; Kobayashi T.; Hayashi A.; Sakamoto K.; Yokoyama S.
CORPORATE SOURCE: S. Yokoyama, Department of Biophysics and Biochemistry, Graduate School of Science, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan.
yokoyama@biochem.s.u-tokyo.ac.jp
SOURCE: Nature Methods, (2005) Vol. 2, No. 3, pp. 201-206. .
Refs: 31
ISSN: 1548-7091
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 9 Sep 2005
Last Updated on STN: 9 Sep 2005

AB We report a method of photo-cross-linking proteins in mammalian cells, which is based on site-specific incorporation of a photoreactive amino acid, p-benzoyl-L-phenylalanine (pBpa), through the use of an expanded genetic code. To analyze the cell signaling interactions involving the adaptor protein Grb2, pBpa was incorporated in its Src homology 2 (SH2) domain. The human GRB2 gene with an amber codon was introduced into Chinese hamster ovary (CHO) cells, together with the genes for the Bacillus stearothermophilus suppressor tRNA(Tyr) and a pBpa-specific variant of Escherichia coli tyrosyl-tRNA synthetase (TyrRS). The Grb2 variant with pBpa in the amber position was synthesized when pBpa was included in the growth medium. Upon exposure of cells to 365-nm light, protein variants containing pBpa in the positions proximal to the ligand-binding pocket were cross-linked with the transiently expressed epidermal growth factor (EGF) receptor in the presence of an EGF stimulus. Cross-linked complexes with endogenous proteins were also detected. In vivo photo-cross-linking with pBpa incorporated in proteins will be useful for studying protein-protein interactions in mammalian cells.

L8 ANSWER 14 OF 45 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN
DUPLICATE 4

ACCESSION NUMBER: 2004-07314 BIOTECHDS
TITLE: New testis-specific tubulin tyrosine-ligase
-like BGS-42 polypeptide, useful for preventing, treating or ameliorating a medical condition, e.g. aberrant cellular proliferation, reproductive disorders or testicular disorders

;

involving vector-mediated gene transfer,
expression in host cell for use in gene therapy

AUTHOR: FEDER J N; WU S; NELSON T C
PATENT ASSIGNEE: BRISTOL-MYERS SQUIBB CO
PATENT INFO: WO 2004005487 15 Jan 2004
APPLICATION INFO: WO 2003-US21605 9 Jul 2003
PRIORITY INFO: US 2002-394725 9 Jul 2002; US 2002-394725 9 Jul 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-099381 [10]
AB DERWENT ABSTRACT:
NOVELTY - A testis-specific tubulin tyrosine-ligase

-like polypeptide, designated BGS-42 polypeptide, is new.

DETAILED DESCRIPTION - A testis-specific tubulin tyrosine-ligase-like polypeptide, designated BGS-42 polypeptide comprises or consists of: (a) a polypeptide fragment, domain, epitope or the full-length protein of a fully defined sequence of 541 amino acids (I), as given in the specification, or the encoded sequence included in ATCC Deposit Number PTA-4454, having tyrosine tubulin ligase activity; (b) a polypeptide comprising amino acids 2-541 of the sequence of (I), where the amino acids 2-541 comprises a polypeptide of (I) minus the start methionine; (c) a polypeptide comprising amino acids 1-541 or 73-365 of the sequence of (I); or (d) a polypeptide comprising at least 424 contiguous amino acids of the sequence of (I). **INDEPENDENT CLAIMS** are also included for: (1) an isolated nucleic acid molecule comprising or consisting of: (a) a polynucleotide fragment of 1838 bp (II), fully defined in the specification, or a polynucleotide fragment of the cDNA sequence included in ATCC Deposit Number PTA-4454, which is hybridizable to the sequence of (II); (b) a polynucleotide encoding a polypeptide fragment, domain, epitope or the full-length protein of the sequence of (I), or a polypeptide fragment, domain or epitope encoded by the cDNA sequence included in ATCC Deposit Number PTA-4454, which is hybridizable to the sequence of (II), having tyrosine tubulin ligase activity; (c) a polynucleotide which is a variant or an allelic variant of (II); (d) nucleotides 156-1775 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 2-541 of (I) minus the start methionine; (e) nucleotides 153-1775 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 1-541 of (I) including the start codon; (f) nucleotides 369-1247 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 73-365 of (I); (g) a polynucleotide that encodes at least 424 contiguous amino acids of (I); (h) at least 1272 contiguous nucleotides of (II); (i) a polynucleotide which represents the complementary sequence (antisense) of (II); (j) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides above, where the polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A or only T residues; (k) a polynucleotide comprising or consisting of the BGS-42 gene or BGS-42 promoter; or (l) a nucleotide sequence of 2241 bp, fully defined in the specification; (2) a recombinant vector comprising the isolated nucleic acid molecule; (3) an isolated antibody that binds specifically to BGS-42 polypeptide; (4) a recombinant host cell comprising the vector sequences, or expressing the BGS-42 polypeptide; (5) making an isolated polypeptide; (6) preventing, treating or ameliorating a medical condition; and (7) diagnosing a pathological condition or a susceptibility to a pathological condition in a subject.

WIDER DISCLOSURE - Also disclosed are screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides, and methods of controlling the expression of the polypeptide.

BIOTECHNOLOGY - Preparation (claimed): The BGS-42 polypeptide is prepared by standard recombinant methods. Making an isolated polypeptide comprises culturing the recombinant host cell under conditions such that the polypeptide is expressed, and recovering the polypeptide. Preferred Polypeptide: The full-length protein comprises sequential amino acid deletions from the C-terminus or the N-terminus. Preferred Nucleic Acid: The polynucleotide fragment consists of a nucleotide sequence encoding a human tyrosine tubulin ligase. Preferred Method: Preventing, treating or ameliorating a medical condition comprises administering to a mammalian subject a therapeutic amount of the BGS-42 polypeptide or its modulator. Diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprises determining the presence or absence of a mutation in the polynucleotide cited above, and diagnosing a pathological condition or a susceptibility to a pathological condition

based on the presence or absence of the mutation. Alternatively, the method comprises determining the presence or amount of **expression** of the BGS-42 polypeptide in a **tyrosine tubulin ligase** sample, and diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of **expression** of the polypeptide.

ACTIVITY - Cytostatic; Respiratory-Gen.; Gastrointestinal-Gen.; Neuroprotective; Endocrine-Gen.; Antiinflammatory; Anabolic; Hypertensive; Osteopathic; Nootropic; Antiparkinsonian; Antiarthritic; Antiasthmatic; Anti-HIV; Antibacterial; Immunosuppressive; Antiseborrheic; Dermatological. No biological data given.

MECHANISM OF ACTION - **Tyrosine Ligase** Modulator; Gene Therapy. No biological data given.

USE - The BGS-42 polypeptide or polynucleotide can be used for diagnosing a pathological condition or a susceptibility to a pathological condition in a subject, and for preventing, treating or ameliorating a medical condition, such as a disorder related to aberrant tubulin ligase activity, a disorder related to aberrant tubulin-carboxypeptidase activity, aberrant cellular proliferation, reproductive disorders, testicular disorders, testicular cancer, pulmonary disorders, lung cancer, gastrointestinal disorders, colon cancer, stomach cancer, neural disorders, brain cancer, liver cancer, or proliferative condition of the testis, lung, small intestine, brain or lymph tissue (all claimed). The BGS-42 polypeptide, polynucleotide, or their modulators are also useful for treating infertility, Cushing's syndrome, emphysema, pneumonia, Addison's disease, acromegaly, Alzheimer's disease, or Parkinson's disease. The BGS-42 polypeptide can be used as a preventive agent for immunological disorders including arthritis, asthma, AIDS, sepsis, acne, Sjogren's disease or scleroderma. The antibodies may be used to purify, detect and target the BGS-42 polypeptides.

ADMINISTRATION - Administration of the antibody is 0.1-100 (preferably 1-10) mg/kg, intradermally, intramuscularly, intraperitoneally, intravenously, subcutaneously, intranasally, epidurally, intraventricularly, intrathecally, topically, orally, or rectally.

EXAMPLE - A polynucleotide encoding a BGS-42 polypeptide was amplified using PCR oligonucleotide primers corresponding to the 5' and 3' ends of the DNA sequence to synthesize insertion fragments. The pQE-9 vector was digested with BamHI and XbaI and the amplified fragment was ligated into the pQE-9 vector maintaining the reading frame initiated at the bacterial ribosome-binding site. The ligation mixture was used to transform Escherichia coli strain M15/rep4. Transformants were identified by their ability to grow on LB (Luria bertani) plates, and ampicillin/kanamycin-resistant colonies were selected. Clones containing the desired constructs were grown overnight in liquid culture, i.e. LB media, supplemented with both ampicillin and kanamycin. Isopropyl-B-D-thiogalacto pyranoside (IPTG) was added to induce gene **expression**. Cells were grown for an extra 3-4 hours, and cells were harvested by centrifugation. The cell pellet obtained by centrifugation was solubilized, and the solubilized BGS-42 protein was purified using a metal chelating column under conditions that allow tight binding of the protein. (343 pages)

L8 ANSWER 15 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5
ACCESSION NUMBER: 2005:156681 HCAPLUS
Correction of: 2005:60757
DOCUMENT NUMBER: 142:216629
Correction of: 142:132329
TITLE: Gene **expression** profiles and biomarkers for
the detection of hyperlipidemia and other
disease-related gene transcripts in blood
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S.

Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004248170 | A1 | 20041209 | US 2004-812777 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular hyperlipidemia, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L8 ANSWER 16 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:824055 HCAPLUS

DOCUMENT NUMBER: 141:330185

TITLE: Gene expression profiling for diagnosis and treatment of angiogenesis-related disorders

INVENTOR(S): Gonda, Thomas John; Kremmidiotis, Gabriel

PATENT ASSIGNEE(S): Bionomics Limited, Australia

SOURCE: PCT Int. Appl., 148 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|-----------------|----------|
| WO 2004085675 | A1 | 20041007 | WO 2004-AU383 | 20040326 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, | | | |

SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
TD, TG

EP 1608778 A1 20051228 EP 2004-723453 20040326

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK

PRIORITY APPLN. INFO.: AU 2003-901511 A 20030328
WO 2004-AU383 W 20040326

AB The present invention provides methods of gene **expression**
profiling for diagnosis and treatment of angiogenesis-related disorders.
Diseases of the invention include cancer, rheumatoid arthritis, diabetic
retinopathy, psoriasis, cardiovascular diseases such as atherosclerosis,
ischemic limb disease and coronary heart disease.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 17 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1997 HCAPLUS

DOCUMENT NUMBER: 142:111841

TITLE: Gene **expression** profiles and biomarkers for
the detection of depression-related and other
disease-related gene transcripts in blood

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): ChondroGene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 154 pp., Cont.-in-part of U.S.
Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2004265868 | A1 | 20041230 | US 2004-812702 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |

PRIORITY APPLN. INFO.: US 1999-115125P P 19990106
US 2000-477148 B1 20000104
US 2002-268730 A2 20021009
US 2003-601518 A2 20030620
US 2004-802875 A2 20040312

AB The present invention is directed to detection and measurement of gene
transcripts and their equivalent nucleic acid products in blood. Specifically
provided is anal. performed on a drop of blood for detecting, diagnosing,
and monitoring diseases, and in particular mental depression, using
gene-specific and/or tissue-specific primers. Affymetrix Human
Genome U133 and ChondroChip microarrays were used to detect differentially
expressed gene transcripts in hypertension, obesity, allergy,
systemic steroids, coronary artery disease, diabetes type 2,
hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis,
osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and
manic depression syndrome. The present invention describes methods by
which delineation of the sequence and/or quantitation of the
expression levels of disease-specific genes allows for an
immediate and accurate diagnostic/prognostic test for disease or to assess
the effect of a particular treatment regimen.

L8 ANSWER 18 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60760 HCAPLUS

Correction of: 2004:1036573
DOCUMENT NUMBER: 142:153477
Correction of: 142:16776
TITLE: Gene **expression** profiles and biomarkers for the detection of Chagas disease and other disease-related gene transcripts in blood
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 154 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241729 | A1 | 20041202 | US 2004-813097 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular Chagas disease, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially **expressed** gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the **expression** levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L8 ANSWER 19 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:60759 HCAPLUS
Correction of: 2004:1036572
DOCUMENT NUMBER: 142:111840
Correction of: 142:16824
TITLE: Gene **expression** profiles and biomarkers for the detection of lung disease-related and other disease-related gene transcripts in blood
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2004241728 | A1 | 20041202 | US 2004-812764 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |

PRIORITY APPLN. INFO.:
US 1999-115125P P 19990106
US 2000-477148 B1 20000104
US 2002-268730 A2 20021009
US 2003-601518 A2 20030620
US 2004-802875 A2 20040312

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially **expressed** gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention also describes methods by which delineation of the sequence and/or quantitation of the **expression** levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L8 ANSWER 20 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60754 HCAPLUS
Correction of: 2004:1036571

DOCUMENT NUMBER: 142:233342
Correction of: 142:16836

TITLE: Sequences of human schizophrenia related genes and use for diagnosis, prognosis and therapy

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 156 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2004241727 | A1 | 20041202 | US 2004-812731 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| US 2005208519 | A1 | 20050922 | US 2004-989191 | 20041115 |

PRIORITY APPLN. INFO.:
US 1999-115125P P 19990106
US 2000-477148 B1 20000104

| | |
|-----------------|-------------|
| US 2002-268730 | A2 20021009 |
| US 2003-601518 | A2 20030620 |
| US 2004-802875 | A2 20040312 |
| US 2004-812731 | A2 20040330 |
| WO 2004-US20836 | A2 20040621 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the **expression** levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

L8 ANSWER 21 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60755 HCAPLUS
Correction of: 2004:1036570

DOCUMENT NUMBER: 142:154259
Correction of: 142:36938

TITLE: Analysis of genetic information contained in peripheral blood for diagnosis, prognosis and monitoring treatment of allergy, infection and genetic disease in human

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241726 | A1 | 20041202 | US 2004-812707 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular allergy, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially **expressed** gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the **expression** levels of disease-specific genes allows for an

immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L8 ANSWER 22 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:722839 HCAPLUS
 DOCUMENT NUMBER: 141:238811
 TITLE: Protein and cDNA sequences of a novel human testis-specific tubulin tyrosine ligase like protein BGS-42, and diagnostic and therapeutic use
 INVENTOR(S): Feder, John N.; Nelson, Thomas C.; Wu, Shujian; Krystek, Stanley R.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 199 pp., Cont.-in-part of U.S. Ser. No. 615,659.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004171131 | A1 | 20040902 | US 2003-635977 | 20030807 |
| US 2004157234 | A1 | 20040812 | US 2003-615659 | 20030709 |
| PRIORITY APPLN. INFO.: | | | US 2002-394725P | P 20020709 |
| | | | US 2003-615659 | A2 20030709 |

AB The present invention provides novel polynucleotides encoding BGS-42 polypeptides, fragments and homologues thereof Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel BGS-42 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

L8 ANSWER 23 OF 45 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2004:405282 SCISEARCH
 THE GENUINE ARTICLE: 812TJ
 TITLE: Suppression of nuclear oscillations in Saccharomyces cerevisiae expressing Glu tubulin
 AUTHOR: Badin-Larcon A C; Boscheron C (Reprint); Soleilhac J M; Piel M; Mann C; Denarier E; Fourest-Lieuvin A; Lafanechere L; Bornens M; Job D
 CORPORATE SOURCE: CEA Grenoble, DRDC, Lab Cytosquelette, INSERM, U366, 17 Rue Martyrs, F-38054 Grenoble, France (Reprint); CEA Grenoble, DRDC, Lab Cytosquelette, INSERM, U366, F-38054 Grenoble, France; Inst Curie, Sect Rech, CNRS, UMR 144, F-75248 Paris 05, France; CEA Saclay, Serv Biochim & Genet Mol, F-91191 Gif Sur Yvette, France
 COUNTRY OF AUTHOR: France
 SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (13 APR 2004) Vol. 101, No. 15, pp. 5577-5582.
 ISSN: 0027-8424.
 PUBLISHER: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC 20418 USA.
 DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 37

ENTRY DATE: Entered STN: 14 May 2004

Last Updated on STN: 14 May 2004

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB In most eukaryotic cells, the C-terminal amino acid of alpha-tubulin is aromatic (Tyr in mammals and Phe in *Saccharomyces cerevisiae*) and is preceded by two glutamate residues. In mammals, the C-terminal Tyr of alpha-tubulin is subject to cyclic removal from the peptide chain by a carboxypeptidase and readdition to the chain by a tubulin-Tyr ligase. There is evidence that tubulin-Tyr ligase suppression and the resulting accumulation of detyrosinated (Glu) tubulin favor tumor growth, both in animal models and in human cancers. However, the molecular basis for this apparent stimulatory effect of Glu tubulin accumulation on tumor progression is unknown. Here we have developed *S. cerevisiae* strains **expressing** only Glu tubulin and used them as a model to assess the consequences of Glu tubulin accumulation in cells. We find that Glu tubulin strains show defects in nuclear oscillations. These defects are linked to a markedly decreased association of the yeast ortholog of CLIP170, Bik1p, with microtubule plus-ends. These results indicate that the accumulation of Glu tubulin in cells affects microtubule tip complexes that are important for microtubule interactions with the cell cortex.

L8 ANSWER 24 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2004290563 EMBASE

TITLE: Proteomic analysis of a ferric uptake regulator mutant of *Helicobacter pylori*: Regulation of *Helicobacter pylori* gene **expression** by ferric uptake regulator and iron.

AUTHOR: Lee H.W.; Choe Y.H.; Kim D.K.; Jung S.Y.; Lee N.G.

CORPORATE SOURCE: Dr. N.G. Lee, Dept. of Biosci. and Biotechnology, Sejong University, 98 Kunja-dong, Kwangjin-gu, Seoul 143-747, Korea, Republic of. nglee@sejong.ac.kr

SOURCE: Proteomics, (2004) Vol. 4, No. 7, pp. 2014-2027. .

Refs: 66

ISSN: 1615-9853 CODEN: PROTC7

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 004 Microbiology

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 29 Jul 2004

Last Updated on STN: 29 Jul 2004

AB The ferric uptake regulator (Fur) protein is a Fe(2+)-dependent transcriptional repressor that binds to the Fur-box of bacterial promoters and down-regulates gene **expression**. In this study, to investigate global gene regulation by Fur in response to iron in *Helicobacter pylori*, a causative agent of human gastric diseases, we compared the proteome profiles of the *H. pylori* strain 26695 and its isogenic fur mutant grown under iron-rich and iron-depleted conditions. In total, 93 protein spots were found to be up- or down-regulated by more than 2-fold by either a fur mutation or iron-depletion. From these, 39 spots were identified by matrix-assisted laser desorption/ionization time of flight analysis to be 29 different proteins of diverse functions, including energy metabolism, transcription and translation, detoxification, biosynthesis of amino acids and nucleotides and production of the cell envelope. **Expression** of six proteins was found to be higher in the fur mutant than in the wild-type bacteria, indicating Fur-mediated repression. Eleven proteins were activated by Fur; five responded to iron and the others were not iron-responsive. The remaining 12 proteins were not under Fur-regulation but responded to iron in a positive or negative manner. Seven different types of gene regulation via Fur and iron were identified. These findings demonstrate that the H.

pylori Fur protein functions as a classical transcriptional repressor but can also function as an activator, providing evidence for the presence of Fur-mediated positive regulation in *H. pylori*.

L8 ANSWER 25 OF 45 MEDLINE on STN
ACCESSION NUMBER: 2005275263 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15577315
TITLE: Class II transactivator (CIITA) isoform **expression** and activity in melanoma.
AUTHOR: Baton Fabrice; Deruyffelaere Carine; Chapin Muriel; Prod'homme Thomas; Charron Dominique; Al-Daccak Reem; Alcaide-Loridan Catherine
CORPORATE SOURCE: INSERM U396, Centre de Recherches Biomedicales des Cordeliers, Paris, France.
SOURCE: Melanoma research, (2004 Dec) Vol. 14, No. 6, pp. 453-61. Journal code: 9109623. ISSN: 0960-8931.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200508
ENTRY DATE: Entered STN: 28 May 2005
Last Updated on STN: 17 Aug 2005
Entered Medline: 16 Aug 2005
AB In contrast with melanocytes, melanomas display constitutive **expression** of HLA-DR (HLA-DR+). This abnormal **expression** has been associated with tumour progression and metastatic dissemination. We have previously reported that this deregulation of HLA-D genes is due to the abnormal constitutive **expression** of the lymphocyte-specific isoform of class II transactivator (B-CIITA), in addition to its fibroblast form (F-CIITA), which is usually **expressed** in major histocompatibility complex (MHC) class II-negative interferon-gamma-induced cell types, such as melanocytes. In this study, we investigated the abnormal **expression** of B-CIITA in a panel of melanoma cell lines displaying differential HLA-DR **expression** profiles, and analysed whether such a molecular event can participate in tumour progression. Our results showed that the abnormal **expression** of B-CIITA did not have any particular effect, in comparison with F-CIITA, on the classical activity of CIITA HLA-D gene regulation. As CIITA has also been shown to regulate genes other than HLA-D, we evaluated the modulation of those encoding cyclin D1, YARS (tyrosyl-tRNA synthetase) and TRIP1 (transforming growth factor (TGF)-beta receptor-interacting protein), proteins involved in cell cycle/apoptosis balance, angiogenesis and resistance to TGF-beta, respectively. In contrast with other cell types, neither B-CIITA nor F-CIITA was able to modulate these genes in melanoma cell lines. Thus, the activity of CIITA, whether lymphocyte-specific or fibroblast-specific, is restricted to HLA-D gene **expression** in these tumours. Accordingly, our data suggest that CIITA is not involved per se in tumour progression; rather, it is the MHC class II molecules themselves, through tumour antigen presentation and the induction of tumour antigen-specific CD4 lymphocyte anergy, that may participate in immune escape and melanoma progression.

L8 ANSWER 26 OF 45 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2004470309 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15382060
TITLE: Low **expression** of human tubulin tyrosine ligase and suppressed tubulin tyrosination/detyrosination cycle are associated with impaired neuronal differentiation in neuroblastomas with poor prognosis.
AUTHOR: Kato Chiaki; Miyazaki Kou; Nakagawa Atsuko; Ohira Miki; Nakamura Yohko; Ozaki Toshinori; Imai Toshio; Nakagawara

Akira
 CORPORATE SOURCE: Division of Biochemistry, Chiba Cancer Center Research
 Institute, Chiba, Japan.
 SOURCE: International journal of cancer. Journal international du
 cancer, (2004 Nov 10) Vol. 112, No. 3, pp. 365-75.
 Journal code: 0042124. ISSN: 0020-7136.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200412
 ENTRY DATE: Entered STN: 22 Sep 2004
 Last Updated on STN: 19 Dec 2004
 Entered Medline: 2 Dec 2004

AB Neuroblastoma (NBL), one of the most common childhood solid tumors, has a
 distinct nature in different prognostic subgroups. However, the precise
 mechanism underlying this phenomenon remains largely unknown. To
 understand the molecular and genetic bases of neuroblastoma, we have
 generated its cDNA libraries and identified a human ortholog of
 tubulin tyrosine ligase gene (hTTL/Nbla0660) as a
 differentially expressed gene at high levels in a favorable
 subset of the tumor. Tubulin is subjected to several types of
 evolutionarily conserved posttranslational modification, including
 tyrosination and detyrosination. Tubulin tyrosine
 ligase catalyzes ligation of the tyrosine residue to the COOH
 terminus of the detyrosinated form of alpha-tubulin. The measurement of
 hTTL mRNA expression in 74 primary neuroblastomas by
 quantitative real-time reverse transcription-PCR revealed that its high
 expression was significantly associated with favorable stages (1,
 2 and 4s; $p = 0.0069$), high TrkA expression ($p = 0.002$), a
 single copy of MYCN ($p < 0.00005$), tumors found by mass screening ($p =$
 0.0042), nonadrenal origin ($p = 0.0042$) and good prognosis ($p = 0.023$).
 The log-rank test showed that high expression of hTTL was an
 indicator of favorable prognosis ($p = 0.026$). Immunohistochemical
 analysis using specific antibodies generated by us demonstrated that
 tyrosinated tubulin (Tyr-tubulin), detyrosinated tubulin (Glu-tubulin) and
 hTTL as well as Delta2-tubulin were positive in favorable tumors, whereas
 only Delta2-tubulin was positive in the tumors with MYCN amplification.
 In an RTBM1 neuroblastoma cell line, hTTL was increased after treating the
 cells with bone morphogenetic protein 2 (BMP2) or all-trans retinoic acid
 (RA), which induced neuronal differentiation. These results suggest that
 the deregulated tubulin tyrosination/detyrosination cycle caused by
 decreased expression of hTTL is associated with inhibition of
 neuronal differentiation and enhancement of cell growth in the primary
 neuroblastomas with poor outcome.

L8 ANSWER 27 OF 45 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:737915 HCAPLUS

DOCUMENT NUMBER: 139:256359

TITLE: Human cDNA sequences and their encoded
 proteins and diagnostic and therapeutic uses

INVENTOR(S): Zerhusen, Bryan D.; Patturajan, Meera; Kekuda, Ramesh;
 Miller, Charles E.; Rieger, Daniel K.; Pena, Carol E.
 A.; Shinkets, Richard A.; Li, Li; Berghs, Constance;
 Zhong, Mei; Casman, Stacie J.; Voss, Edward Z.;
 Boldog, Ferenc L.; Padigar, Muralidhara; Smithson,
 Glennda; Shenoy, Suresh G.; Ji, Weizhen; Gorman,
 Linda; Vernet, Corine A. M.; Leite, Mario W.; Guo,
 Xiaojia; Anderson, David W.; Spytek, Kimberly A.;
 Gerlach, Valerie L.; Burgess, Catherine E.; Khramtsov,
 Nikolai V.; Ort, Tatiana; Ellerman, Karen; Rastelli,
 Luca; Agee, Michele L.; Chaudhuri, Amitabha; Chant,
 John S.; Dipippo, Vincent A.; Edinger, Shlomit; Eisen,
 Andrew; Gangolli, Esha A.; Giot, Loic; Ooi, Chean Eng;

Rothenberg, Mark E.; Spaderna, Steven K.; Hjalt, Tord;
Liu, Xiaohong; Taupier, Raymond J., Jr.; Catterton,
Elina

PATENT ASSIGNEE(S): Curagen Corporation, USA

SOURCE: PCT Int. Appl., 562 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 165

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|-------------|
| WO 2003076642 | A2 | 20030918 | WO 2002-US24459 | 20020802 |
| WO 2003076642 | A3 | 20041014 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2004014053 | A1 | 20040122 | US 2002-210130 | 20020801 |
| CA 2449341 | AA | 20030918 | CA 2002-2449341 | 20020802 |
| EP 1492807 | A2 | 20050105 | EP 2002-806720 | 20020802 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR, BG, CZ, EE, SK | | | | |
| JP 2005526507 | T2 | 20050908 | JP 2003-574839 | 20020802 |
| AU 2005200106 | A1 | 20050210 | AU 2005-200106 | 20050112 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 2001-309501P | P 20010802 |
| | | | US 2001-310291P | P 20010803 |
| | | | US 2001-310951P | P 20010808 |
| | | | US 2001-311292P | P 20010809 |
| | | | US 2001-311979P | P 20010813 |
| | | | US 2001-312203P | P 20010814 |
| | | | US 2001-313156P | P 20010817 |
| | | | US 2001-313201P | P 20010817 |
| | | | US 2001-313702P | P 20010820 |
| | | | US 2001-314031P | P 20010821 |
| | | | US 2001-314466P | P 20010823 |
| | | | US 2001-315403P | P 20010828 |
| | | | US 2001-315853P | P 20010829 |
| | | | US 2001-316508P | P 20010831 |
| | | | US 2001-323936P | P 20010921 |
| | | | US 2001-338078P | P 20011203 |
| | | | US 2002-354655P | P 20020205 |
| | | | US 2002-361764P | P 20020305 |
| | | | US 2002-373825P | P 20020419 |
| | | | US 2002-380971P | P 20020515 |
| | | | US 2002-380980P | P 20020515 |
| | | | US 2002-381039P | P 20020516 |
| | | | US 2002-383761P | P 20020528 |
| | | | US 2002-383887P | P 20020529 |
| | | | US 2002-210130 | A2 20020801 |
| | | | AU 2000-37360 | A3 20000309 |
| | | | US 2001-313643P | P 20010820 |
| | | | US 2001-322716P | P 20010917 |
| | | | WO 2002-US24459 | W 20020802 |

AB Disclosed herein are 49 cDNA sequences that encode novel human polypeptides that are members of various protein families. Also disclosed are polypeptides encoded by these nucleic acid sequences, and antibodies,

which immunospecifically-bind to the polypeptide, as well as derivs., variants, mutants, or fragments of the aforementioned polypeptide, polynucleotide, or antibody. The invention further discloses therapeutic, diagnostic and research methods for diagnosis, treatment, and prevention of disorders involving any one of these novel human nucleic acids and proteins.

L8 ANSWER 28 OF 45 MEDLINE on STN
ACCESSION NUMBER: 2003061672 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12509991
TITLE: **Expression**, purification, and characterization of **human tyrosyl-tRNA synthetase**.
AUTHOR: Jia Jie; Li Bin; Jin Youxin; Wang Debao
CORPORATE SOURCE: State Key Laboratory of Molecular Biology, Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, 320 Yue-Yang Road, Shanghai 200031, PR China.
SOURCE: Protein expression and purification, (2003 Jan) Vol. 27, No. 1, pp. 104-8.
Journal code: 9101496. ISSN: 1046-5928.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200309
ENTRY DATE: Entered STN: 8 Feb 2003
Last Updated on STN: 3 Sep 2003
Entered Medline: 2 Sep 2003

AB **Human tyrosyl-tRNA synthetase** is a homodimeric enzyme and each subunit is near 58 KD. It catalyzes the aminoacylation of tRNA(Tyr) by L-tyrosine. The His(6)-tagged human TyrS gene was obtained by RT-PCR from total RNA of human lung giant-cell cancer strain 95 D. It was confirmed by sequencing and cloned into the **expression** vector pET-24 a (+) to yield pET-24 a (+)-HTyrRS, which was transfected into Escherichia coli BL21-CodonPlus-RIL. The induced-**expression** level of His(6)-tagged human TyrRS was about 24% of total cell proteins under IPTG inducing. The **recombinant** protein was conveniently purified in a single step by metal (Ni(2+)) chelate affinity chromatography. About 22.3mg purified enzyme could be obtained from 1L cell culture. The k(cat) value of His(6)-tagged **human TyrRS** in the second step of tRNA(Tyr) aminoacylation was 1.49 s(-1). The K(m) values of tyrosine and tRNA(Tyr) were 0.3 and 0.9 microM. Six His residues at the C terminus of **human TyrRS** have little effect on the activities of the enzyme compared with other eukaryotic TyrRSs.

L8 ANSWER 29 OF 45 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 2003493733 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14571137
TITLE: **Cloning** and genomic organization of the TTL gene on mouse chromosome 2 and **human** chromosome 2q13.
AUTHOR: Erck C; MacLeod R A F; Wehland J
CORPORATE SOURCE: Department of Cell Biology, German Research Center of Biotechnology, Braunschweig, Germany.. cer@gbf.de
SOURCE: Cytogenetic and genome research, (2003) Vol. 101, No. 1, pp. 47-53.
Journal code: 101142708. E-ISSN: 1424-859X.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200403
ENTRY DATE: Entered STN: 23 Oct 2003
Last Updated on STN: 16 Mar 2004

Entered Medline: 15 Mar 2004

AB Tubulin tyrosine ligase (TTL) is a cytosolic enzyme involved in the posttranslational modification of tubulin. In the assembled form microtubules are detyrosinated over time at the C-terminus of alpha-tubulin. After microtubular disassembly TTL restores tyrosine residues back to the detyrosinated tubulin leading to a cycle of detyrosination/tyrosination. Here we report the isolation of the human and mouse TTL cDNA. In comparison with other known TTL sequences, namely bovine, rat and porcine, we found that only porcine TTL deviates in length by having an insertion of two glutamate residues. In mouse and human TTL the genomic coding sequence is composed of seven exons with normal intron/exon boundaries. Using fluorescence in situ hybridization (FISH), we mapped the murine TTL gene to mouse chromosome 2 (MMU2). Human TTL has been located to chromosome 2q13 (HSA2q13). In addition, we found frequently truncated PCR products of hTTL transcripts with aberrant splicing in tumors.
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L8 ANSWER 30 OF 45 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2002301171 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11956181
TITLE: Induction of angiogenesis by a fragment of human tyrosyl-tRNA synthetase.
AUTHOR: Wakasugi Keisuke; Slike Bonnie M; Hood John; Ewalt Karla L; Cheresch David A; Schimmel Paul
CORPORATE SOURCE: Skaggs Institute for Chemical Biology and Department of Chemistry, The Scripps Research Institute, La Jolla, California 92037, USA.
CONTRACT NUMBER: CA92577 (NCI)
GM23562 (NIGMS)
SOURCE: The Journal of biological chemistry, (2002 Jun 7) Vol. 277, No. 23, pp. 20124-6. Electronic Publication: 2002-04-15. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200207
ENTRY DATE: Entered STN: 4 Jun 2002
Last Updated on STN: 5 Jan 2003
Entered Medline: 12 Jul 2002

AB The first step of protein synthesis is catalyzed by aminoacyl-tRNA synthetases. In addition, certain mammalian tRNA synthetases link protein synthesis to cytokine signaling pathways. In particular, human tyrosyl-tRNA synthetase (TyrRS) can be split by proteolysis into two fragments having distinct cytokine activities. One of the TyrRS fragments (mini TyrRS) contains features identical to those in CXC chemokines (like interleukin-8) that also act as angiogenic factors. Here mini TyrRS (but not full-length TyrRS) is shown to stimulate chemotaxis of endothelial cells in vitro and stimulate angiogenesis in each of two in vivo animal models. The angiogenic activity of mini TyrRS can be opposed by anti-angiogenic chemokines like IP-10. Thus, a biological fragment of human tyrosyl-tRNA synthetase links protein synthesis to regulation of angiogenesis.

L8 ANSWER 31 OF 45 MEDLINE on STN
ACCESSION NUMBER: 2002229799 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11856731
TITLE: Catalysis of tyrosyl-adenylate formation by the human tyrosyl-tRNA synthetase.
AUTHOR: Austin Joseph; First Eric A
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Louisiana State University Health Sciences Center in Shreveport, Shreveport, Louisiana 71130, USA.

CONTRACT NUMBER: GM53693 (NIGMS)
 SOURCE: The Journal of biological chemistry, (2002 Apr 26) Vol. 277, No. 17, pp. 14812-20. Electronic Publication: 2002-02-20.
 Journal code: 2985121R. ISSN: 0021-9258.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200205
 ENTRY DATE: Entered STN: 23 Apr 2002
 Last Updated on STN: 5 Jan 2003
 Entered Medline: 31 May 2002

AB Although the active site residues in the *Bacillus stearothermophilus* and human tyrosyl-tRNA synthetases are largely conserved, several differences exist between the two enzymes. In particular, three amino acids that stabilize the transition state for the activation of tyrosine in *B. stearothermophilus* tyrosyl-tRNA synthetase (Cys-35, His-48, and Lys-233) are not present in the human enzyme. This raises the question of whether the activation energy for the tyrosine activation step is higher for the human tyrosyl-tRNA synthetase than for the *B. stearothermophilus* enzyme. In this paper, we demonstrate that intrinsic fluorescence changes can be used to monitor the pre-steady state kinetics of human tyrosyl-tRNA synthetase. In contrast to the *B. stearothermophilus* enzyme, catalysis of the tyrosine activation step is potassium-dependent in the human tyrosyl-tRNA synthetase. Specifically, potassium increases the forward rate constant for tyrosine activation 260-fold in the human tyrosyl-tRNA synthetase. Comparison of the forward rate constants for catalysis of tyrosine activation by the human and *B. stearothermophilus* enzymes indicates that despite differences in their active sites and the potassium requirement of the human enzyme, the activation energies for tyrosine activation are identical for the two enzymes. The results of these investigations suggest that differences exist between the active sites of the bacterial and human tyrosyl-tRNA synthetases that could be exploited to design antimicrobials that target the bacterial enzyme.

L8 ANSWER 32 OF 45 MEDLINE on STN
 ACCESSION NUMBER: 2002689767 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 12450387
 TITLE: Mutational switching of a yeast tRNA synthetase into a mammalian-like synthetase cytokine.
 AUTHOR: Liu Jianming; Yang Xiang-Lei; Ewalt Karla L; Schimmel Paul
 CORPORATE SOURCE: The Skaggs Institute for Chemical Biology and the Department of Molecular Biology, The Scripps Research Institute, 10550 North Torrey Pines Road, BCC-379, La Jolla, California 92037, USA.
 CONTRACT NUMBER: CA92577 (NCI)
 SOURCE: Biochemistry, (2002 Dec 3) Vol. 41, No. 48, pp. 14232-7.
 Journal code: 0370623. ISSN: 0006-2960.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200301
 ENTRY DATE: Entered STN: 14 Dec 2002
 Last Updated on STN: 11 Jan 2003
 Entered Medline: 10 Jan 2003

AB Aminoacyl-tRNA synthetases catalyze the attachment of amino acids to their cognate tRNAs. A link was recently established between protein biosynthesis and cytokine signal transduction. Human tyrosyl-tRNA synthetase can be split into two fragments, each of which has a distinct cytokine function. This activity is specific to the

human enzyme. It is absent in the enzymes from lower organisms such as bacteria and yeast. Here, yeast tyrosyl-tRNA synthetase (TyrRS), which lacks cytokine activity, was used as a model to explore how a human tyrosyl-tRNA synthetase during evolution acquired novel functions beyond aminoacylation. We found that a rationally designed mutant yeast TyrRS(ELR) gained cytokine function. The mutant yeast enzyme gained this function without sacrifice of aminoacylation activity. Therefore, relatively simple alteration of a basic structural motif imparts cytokine activity to a tRNA synthetase while preserving its canonical function. Further work established that mutational switching of a yeast protein to a mammalian-like cytokine was specific to this synthetase and not to just any yeast ortholog of a mammalian cytokine.

L8 ANSWER 33 OF 45 MEDLINE on STN DUPLICATE 9
 ACCESSION NUMBER: 2002665685 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 12409460
 TITLE: Site-specific incorporation of an unnatural amino acid into proteins in mammalian cells.
 AUTHOR: Sakamoto Kensaku; Hayashi Akiko; Sakamoto Ayako; Kiga Daisuke; Nakayama Hiroshi; Soma Akiko; Kobayashi Takatsugu; Kitabatake Makoto; Takio Koji; Saito Kazuki; Shirouzu Mikako; Hirao Ichiro; Yokoyama Shigeyuki
 CORPORATE SOURCE: Department of Biophysics and Biochemistry, Graduate School of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan.
 SOURCE: Nucleic acids research, (2002 Nov 1) Vol. 30, No. 21, pp. 4692-9.
 Journal code: 0411011. E-ISSN: 1362-4962.
 PUB. COUNTRY: England: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200211
 ENTRY DATE: Entered STN: 13 Nov 2002
 Last Updated on STN: 12 Dec 2002
 Entered Medline: 25 Nov 2002

AB A suppressor tRNA(Tyr) and mutant tyrosyl-tRNA synthetase (TyrRS) pair was developed to incorporate 3-iodo-L-tyrosine into proteins in mammalian cells. First, the Escherichia coli suppressor tRNA(Tyr) gene was mutated, at three positions in the D arm, to generate the internal promoter for expression. However, this tRNA, together with the cognate TyrRS, failed to exhibit suppressor activity in mammalian cells. Then, we found that amber suppression can occur with the heterologous pair of E.coli TyrRS and Bacillus stearothermophilus suppressor tRNA(Tyr), which naturally contains the promoter sequence. Furthermore, the efficiency of this suppression was significantly improved when the suppressor tRNA was expressed from a gene cluster, in which the tRNA gene was tandemly repeated nine times in the same direction. For incorporation of 3-iodo-L-tyrosine, its specific E.coli TyrRS variant, TyrRS(V37C195), which we recently created, was expressed in mammalian cells, together with the B.stearothermophilus suppressor tRNA(Tyr), while 3-iodo-L-tyrosine was supplied in the growth medium. 3-Iodo-L-tyrosine was thus incorporated into the proteins at amber positions, with an occupancy of >95%. Finally, we demonstrated conditional 3-iodo-L-tyrosine incorporation, regulated by inducible expression of the TyrRS(V37C195) gene from a tetracycline-regulated promoter.

L8 ANSWER 34 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN
 ACCESSION NUMBER: 2002026029 EMBASE
 TITLE: A fragment of human TrpRS as a potent antagonist of ocular angiogenesis.
 AUTHOR: Otani A.; Slike B.M.; Dorrell M.I.; Hood J.; Kinder K.; Ewalt K.L.; Cheres D.; Schimmel P.; Friedlander M.

CORPORATE SOURCE: P. Schimmel, Skaggs Inst. for Chemical Biology, Department of Molecular Biology, Scripps Research Institute, San Diego, CA 92037, United States. schimmel@scripps.edu
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (8 Jan 2002) Vol. 99, No. 1, pp. 178-183. .
Refs: 56
ISSN: 0027-8424 CODEN: PNASA6
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 31 Jan 2002
Last Updated on STN: 31 Jan 2002

AB Pathological angiogenesis contributes directly to profound loss of vision associated with many diseases of the eye. Recent work suggests that human tyrosyl- and tryptophanyl-tRNA synthetases (TrpRS) link protein synthesis to signal transduction pathways including angiogenesis. In this study, we show that a recombinant form of a COOH-terminal fragment of TrpRS is a potent antagonist of vascular endothelial growth factor-induced angiogenesis in a mouse model and of naturally occurring retinal angiogenesis in the neonatal mouse. The angiostatic activity is dose-dependent in both systems. The recombinant fragment is similar in size to one generated naturally by alternative splicing and can be produced by proteolysis of the full-length protein. In contrast, the full-length protein is inactive as an antagonist of angiogenesis. These results suggest that fragments of TrpRS, as naturally occurring and potentially nonimmunogenic anti-angiogenics, can be used for the treatment of neovascular eye diseases.

L8 ANSWER 35 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 10

ACCESSION NUMBER: 2001099842 EMBASE
TITLE: Twenty-first aminoacyl-tRNA synthetase-suppressor tRNA pairs for possible use in site-specific incorporation of amino acid analogues into proteins in eukaryotes and in eubacteria.
AUTHOR: Kowal A.K.; Kohrer C.; RajBhandary U.L.
CORPORATE SOURCE: U.L. RajBhandary, Department of Biology, Massachusetts Institute of Technol., Cambridge, MA 02139, United States. bhandary@mit.edu
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (27 Feb 2001) Vol. 98, No. 5, pp. 2268-2273. .
Refs: 45
ISSN: 0027-8424 CODEN: PNASA6
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 12 Apr 2001
Last Updated on STN: 12 Apr 2001

AB Two critical requirements for developing methods for the site-specific incorporation of amino acid analogues into proteins in vivo are (i) a suppressor tRNA that is not aminoacylated by any of the endogenous aminoacyl-tRNA synthetases (aaRSs) and (ii) an aminoacyl-tRNA synthetase that aminoacylates the suppressor tRNA but no other tRNA in the cell. Here we describe two such aaRS-suppressor tRNA pairs, one for use in the yeast *Saccharomyces cerevisiae* and another for use in *Escherichia coli*. The "21st synthetase-tRNA pairs" include *E. coli* glutaminyl-tRNA synthetase (GlnRS) along with an amber suppressor derived from

human initiator tRNA, for use in yeast, and mutants of the yeast tyrosyl-tRNA synthetase (TyrRS) along with an amber suppressor derived from E. coli initiator tRNA, for use in E. coli. The suppressor tRNAs are aminoacylated in vivo only in the presence of the heterologous aaRSs, and the aminoacylated tRNAs function efficiently in suppression of amber codons. Plasmids carrying the E. coli GlnRS gene can be stably maintained in yeast. However, plasmids carrying the yeast TyrRS gene could not be stably maintained in E. coli. This lack of stability is most likely due to the fact that the wild-type yeast TyrRS misaminoacylates the E. coli proline tRNA. By using error-prone PCR, we have isolated and characterized three mutants of yeast TyrRS, which can be stably expressed in E. coli. These mutants still aminoacylate the suppressor tRNA essentially quantitatively in vivo but show increased discrimination in vitro for the suppressor tRNA over the E. coli proline tRNA by factors of 2.2- to 6.8-fold.

L8 ANSWER 36 OF 45 MEDLINE on STN
 ACCESSION NUMBER: 2001275783 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 11359929
 TITLE: Role of nuclear pools of aminoacyl-tRNA synthetases in tRNA nuclear export.
 AUTHOR: Azad A K; Stanford D R; Sarkar S; Hopper A K
 CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Pennsylvania State University College of Medicine, Hershey, Pennsylvania 17033, USA.
 SOURCE: Molecular biology of the cell, (2001 May) Vol. 12, No. 5, pp. 1381-92.
 Journal code: 9201390. ISSN: 1059-1524.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200109
 ENTRY DATE: Entered STN: 17 Sep 2001
 Last Updated on STN: 17 Sep 2001
 Entered Medline: 13 Sep 2001

AB Reports of nuclear tRNA aminoacylation and its role in tRNA nuclear export (Lund and Dahlberg, 1998; Sarkar et al., 1999; Grosshans et al., 20001) have led to the prediction that there should be nuclear pools of aminoacyl-tRNA synthetases. We report that in budding yeast there are nuclear pools of tyrosyl-tRNA synthetase, Tysl_p. By sequence alignments we predicted a Tysl_p nuclear localization sequence and showed it to be sufficient for nuclear location of a passenger protein. Mutations of this nuclear localization sequence in endogenous Tysl_p reduce nuclear Tysl_p pools, indicating that the motif is also important for nucleus location. The mutations do not significantly affect catalytic activity, but they do cause defects in export of tRNAs to the cytosol. Despite export defects, the cells are viable, indicating that nuclear tRNA aminoacylation is not required for all tRNA nuclear export paths. Because the tRNA nuclear exportin, Losl_p, is also unessential, we tested whether tRNA aminoacylation and Losl_p operate in alternative tRNA nuclear export paths. No genetic interactions between aminoacyl-tRNA synthetases and Losl_p were detected, indicating that tRNA nuclear aminoacylation and Losl_p operate in the same export pathway or there are more than two pathways for tRNA nuclear export.

L8 ANSWER 37 OF 45 MEDLINE on STN DUPLICATE 11
 ACCESSION NUMBER: 2001070000 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 11054573
 TITLE: Characterization of the human tubulin tyrosine ligase-like 1 gene (TTLL1) mapping to 22q13.1.
 AUTHOR: Trichet V; Ruault M; Roizes G; De Sario A
 CORPORATE SOURCE: Sequences Repetees et Centromeres Humains, CNRS UPR 1142,

Institut de Biologie, 4, bv Henri IV, 34060, Montpellier,
France.

SOURCE: Gene, (2000 Oct 17) Vol. 257, No. 1, pp. 109-17.
Journal code: 7706761. ISSN: 0378-1119.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF104927; GENBANK-AF173935
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 22 Mar 2001
Last Updated on STN: 22 Mar 2001
Entered Medline: 4 Jan 2001

AB This paper reports the characterization of the human tubulin tyrosine ligase-like 1 gene (TTLL1), which maps to the chromosome region 22q13.1 and has been partially duplicated on three other acrocentric chromosomes: 13, 15 and 21. We describe the complete cDNA, TTLL1a, coding for the putative 423 amino acid long TTLL1 and alternative transcripts coding for truncated TTLL1. Likely TTLL1a corresponds to the 1.8 kb transcript that was detected in a wide range of tissues and has a stronger expression in heart, brain and testis. A 4.8 kb transcript was found only in brain tissues. We present an interspecies sequence comparison, revealing three conserved domains, named TTLD1, TTLD2 and TTLD3, that are specific to the TTLs and TTL-like proteins.

L8 ANSWER 38 OF 45 MEDLINE on STN

ACCESSION NUMBER: 2000148025 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10685598
TITLE: Tubulin-tyrosine ligase, a long-lasting
enigma.
AUTHOR: Erck C; Frank R; Wehland J
CORPORATE SOURCE: Abteilung Zellbiologie, Gesellschaft fuer Biotechnologische
Forschung, Braunschweig, Germany.
SOURCE: Neurochemical research, (2000 Jan) Vol. 25, No. 1, pp.
5-10. Ref: 48
Journal code: 7613461. ISSN: 0364-3190.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20 Mar 2000
Last Updated on STN: 20 Mar 2000
Entered Medline: 9 Mar 2000

AB Tubulins and microtubules are subjected to several post-translational modifications of which the reversible detyrosination/tyrosination of the carboxy-terminal end of most alpha-tubulins has been extensively analysed. This modification cycle involves a specific carboxypeptidase and the activity of the tubulin-tyrosine ligase (TTL). The true physiological function of TTL has so far not been established. This review describes the purification of TTL to homogeneity by biochemical methods, its in vitro properties and the generation of monoclonal antibodies. These mabs not only enabled a very convenient and rapid purification of TTL by immunoaffinity chromatography but also its extensive characterization by protein sequencing, which led to the isolation of the full length cDNA. With this information, gene disruption should be feasible in order to determine the physiological significance of the tyrosination cycle.

L8 ANSWER 39 OF 45 MEDLINE on STN

ACCESSION NUMBER: 1999203717 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10102815
TITLE: Two distinct cytokines released from a human

aminoacyl-tRNA synthetase.
 AUTHOR: Wakasugi K; Schimmel P
 CORPORATE SOURCE: The Skaggs Institute for Chemical Biology, The Scripps Research Institute, Beckman Center, 10550 North Torrey Pines Road, La Jolla, CA 92037, USA.
 CONTRACT NUMBER: GM23562 (NIGMS)
 SOURCE: Science, (1999 Apr 2) Vol. 284, No. 5411, pp. 147-51.
 Journal code: 0404511. ISSN: 0036-8075.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199904
 ENTRY DATE: Entered STN: 4 May 1999
 Last Updated on STN: 4 May 1999
 Entered Medline: 22 Apr 1999

AB Aminoacyl-tRNA synthetases catalyze aminoacylation of transfer RNAs (tRNAs). It is shown that human tyrosyl-tRNA synthetase can be split into two fragments with distinct cytokine activities. The endothelial monocyte-activating polypeptide II-like carboxy-terminal domain has potent leukocyte and monocyte chemotaxis activity and stimulates production of myeloperoxidase, tumor necrosis factor-alpha, and tissue factor. The catalytic amino-terminal domain binds to the interleukin-8 type A receptor and functions as an interleukin-8-like cytokine. Under apoptotic conditions in cell culture, the full-length enzyme is secreted, and the two cytokine activities can be generated by leukocyte elastase, an extracellular protease. Secretion of this tRNA synthetase may contribute to apoptosis both by arresting translation and producing needed cytokines.

L8 ANSWER 40 OF 45 MEDLINE on STN
 ACCESSION NUMBER: 2000131861 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 10667209
 TITLE: Azatyrosine. Mechanism of action for conversion of transformed phenotype to normal.
 AUTHOR: Monden Y; Hamano Takaku F; Shindo Okada N; Nishimura S
 CORPORATE SOURCE: Banyu Tsukuba Research Institute, Ibaraki, Japan.
 SOURCE: Annals of the New York Academy of Sciences, (1999) Vol. 886, pp. 109-21. Ref: 42
 Journal code: 7506858. ISSN: 0077-8923.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200002
 ENTRY DATE: Entered STN: 14 Mar 2000
 Last Updated on STN: 14 Mar 2000
 Entered Medline: 29 Feb 2000

AB Azatyrosine [L-beta-(5-hydroxy-2-pyridyl)-alanine] has the unique property of converting ras- or c-erbB-2 transformed phenotype to normal. The administration of azatyrosine also inhibits tumor formation in transgenic mice harboring the normal human c-Ha-ras which is mutated during treatment with various chemical carcinogens. To elucidate the molecular mechanism, we investigated how azatyrosine functions and what are its major targets. Azatyrosine functions downstream of ras; azatyrosine does not alter either the level of GTP-bound Ras or the total amount of Ras. Instead, azatyrosine inhibits the activation of c-Raf-1 kinase by oncogenic c-ErbB-2, resulting in inactivation of AP1. It is interesting that azatyrosine also restores the expression of the rhoB gene, the product of which regulates the formation of actin stress fibers. Azatyrosine is incorporated into cellular proteins to replace tyrosine. Several experiments indicate that replacement of tyrosine is likely to be a cause for its conversion of transformed phenotype to normal. To prove

this hypothesis, we are attempting to develop a mutant of tyrosyl-tRNA synthetase that, unlike wild type, can aminoacylate azatyrosine more efficiently than can tyrosine.

L8 ANSWER 41 OF 45 LIFESCI COPYRIGHT 2006 CSA on STN

ACCESSION NUMBER: 1999:46249 LIFESCI
TITLE: A deadly double life
AUTHOR: Weiner, A.M.; Maizels, N.
CORPORATE SOURCE: Dep. Mol. Biophys. and Biochem., and Genet., Yale Univ.
Sch. Med., New Haven, CT 06520-8024, USA; E-mail:
weiner@biomed.med.yale.edu
SOURCE: Science (Washington) [Science (Wash.)], (19990402) vol.
284, no. 5411, pp. 63-64.
ISSN: 0036-8075.
DOCUMENT TYPE: Journal
TREATMENT CODE: General Review
FILE SEGMENT: N; F
LANGUAGE: English

AB Two years ago, the groups of Eduard Hurt at the University of Heidelberg and Eric First at Louisiana State University made the remarkable discovery that the carboxyl-terminal domain of human tyrosyl-transfer RNA synthetase--the enzyme that catalyzes covalent attachment of the amino acid tyrosine to the corresponding tRNA molecule in preparation for protein synthesis--has extensive amino acid sequence homology (49% identity) with a cytokine. The cytokine in question, endothelial monocyte-activating polypeptide II (EMAPII), activates endothelial cells to **express** tissue factor and surface adhesion molecules, and stimulates phagocytic cells to **express** tissue factor and tumor necrosis factor- alpha (TNF- alpha), and to migrate to sites of inflammation. Does human tyrosyl-tRNA synthetase lead a double life as the cytokine EMAPII? Apparently so, as Wakasugi and Schimmel report on page 147 of this issue. They show that human tyrosyl-tRNA synthetase is secreted as cells undergo programmed cell death (apoptosis) and is cleaved into not one but two cytokines. These investigators demonstrate that tyrosyl-tRNA synthetase, which normally resides in the cell cytoplasm, is secreted by a re-transformed human hematopoietic cell line that was forced to undergo apoptosis by serum deprivation. Secretion of tyrosyl-tRNA synthetase is specific; other tRNA synthetases cannot be detected in supernatants derived from these apoptotic cells. The secreted tyrosyl-tRNA synthetase is full length and inactive but, like many other cytokines, it becomes activated after cleavage into two fragments by extracellular proteases.

L8 ANSWER 42 OF 45 MEDLINE on STN DUPLICATE 12

ACCESSION NUMBER: 1998070560 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9405300
TITLE: Suppression of tubulin tyrosine ligase
during tumor growth.
AUTHOR: Lafanechere L; Courtay-Cahen C; Kawakami T; Jacrot M;
Rudiger M; Wehland J; Job D; Margolis R L
CORPORATE SOURCE: Laboratoire du Cytosquelette, INSERM U366, DBMS,
Commisariat a l'Energie Atomique/Grenoble, Grenoble,
France.
SOURCE: Journal of cell science, (1998 Jan) Vol. 111 (Pt 2), pp.
171-81.
Journal code: 0052457. ISSN: 0021-9533.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199803
ENTRY DATE: Entered STN: 26 Mar 1998
Last Updated on STN: 26 Mar 1998
Entered Medline: 17 Mar 1998

AB The C terminus of the tubulin alpha-subunit of most eukaryotic cells undergoes a cycle of tyrosination and detyrosination using two specific enzymes, a tubulin tyrosine ligase (TTL) and a tubulin carboxypeptidase. Although this enzyme cycle is conserved in evolution and exhibits rapid turnover, the meaning of this modification has remained elusive. We have isolated several NIH-3T3 derived clonal cell lines that lack TTL (TTL-). TTL- cells contain a unique tubulin isotype (delta2-tubulin) that can be detected with specific antibodies. When injected into nude mice, both TTL- cells and TTL+ cells stably transfected with TTL cDNA form sarcomas. But in tumors formed from TTL rescued cells, TTL is systematically lost during tumor growth. A strong selection process has thus acted during tumor growth to suppress TTL activity. In accord with this result, we find suppression of TTL activity in the majority of human tumors assayed with delta2-tubulin antibody. We conclude there is a widespread loss of TTL activity during tumor growth in situ, suggesting that TTL activity may play a role in tumor cell regulation.

L8 ANSWER 43 OF 45 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN DUPLICATE 13

ACCESSION NUMBER: 97166125 EMBASE
DOCUMENT NUMBER: 1997166125
TITLE: Human tyrosyl-tRNA synthetase shares amino acid sequence homology with a putative cytokine.
AUTHOR: Kleeman T.A.; Wei D.; Simpson K.L.; First E.A.
CORPORATE SOURCE: E.A. First, Biochemistry/Molecular Biol. Dept., Louisiana State Univ. Med. Center, Shreveport, LA 71130-3932, United States. efirst@lsu.mc.edu
SOURCE: Journal of Biological Chemistry, (1997) Vol. 272, No. 22, pp. 14420-14425. .
Refs: 65
ISSN: 0021-9258 CODEN: JBCHA3
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 25 Jun 1997
Last Updated on STN: 25 Jun 1997

AB To test the hypothesis that tRNA(Tyr) recognition differs between bacterial and human tyrosyl-tRNA synthetases, we sequenced several clones identified as human tyrosyl-tRNA synthetase cDNAs by the Human Genome Project. We found that human tyrosyl-tRNA synthetase is composed of three domains: 1) an amino-terminal Rossmann fold domain that is responsible for formation of the activated E-Tyr-AMP intermediate and is conserved among bacteria, archaeae, and eukaryotes; 2) a tRNA anticodon recognition domain that has not been conserved between bacteria and eukaryotes; and 3) a carboxyl-terminal domain that is unique to the human tyrosyl-tRNA synthetase and whose primary structure is 49% identical to the putative human cytokine endothelial monocyte-activating protein II, 50% identical to the carboxyl-terminal domain of methionyl-tRNA synthetase from *Caenorhabditis elegans*, and 43% identical to the carboxyl-terminal domain of Arclp from *Saccharomyces cerevisiae*. The first two domains of the human tyrosyl-tRNA synthetase are 52, 36, and 16% identical to tyrosyl-tRNA synthetases from *S. cerevisiae*, *Methanococcus jannaschii*, and *Bacillus stearothermophilus*, respectively. Nine of fifteen amino acids known to be involved in the formation of the tyrosyl-adenylate complex in *B. stearothermophilus* are conserved across all of the organisms, whereas amino acids involved in the recognition of tRNA(Tyr) are not conserved. Kinetic analyses of recombinant human and *B. stearothermophilus* tyrosyl-tRNA synthetases expressed in *Escherichia coli* indicate that human tyrosyl-tRNA synthetase aminoacylates human but not *B.*

stearothermophilus tRNA(Tyr), and vice versa, supporting the original hypothesis. It is proposed that like endothelial monocyte-activating protein II and the carboxyl-terminal domain of Arc1p, the carboxyl-terminal domain of human tyrosyl-tRNA synthetase evolved from gene duplication of the carboxyl-terminal domain of methionyl-tRNA synthetase and may direct tRNA to the active site of the enzyme.

L8 ANSWER 44 OF 45 MEDLINE on STN DUPLICATE 14
ACCESSION NUMBER: 97234553 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9118990
TITLE: Tubulin post-translational modifications--enzymes and their mechanisms of action.
AUTHOR: MacRae T H
CORPORATE SOURCE: Department of Biology, Dalhousie University, Halifax, Canada.
SOURCE: European journal of biochemistry / FEBS, (1997 Mar 1) Vol. 244, No. 2, pp. 265-78. Ref: 172
JOURNAL code: 0107600. ISSN: 0014-2956.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199704
ENTRY DATE: Entered STN: 6 May 1997
Last Updated on STN: 3 Mar 2000
Entered Medline: 22 Apr 1997

AB This review describes the enzymes responsible for the post-translational modifications of tubulin, including detyrosination/tyrosination, acetylation/deacetylation, phosphorylation, polyglutamylolation, polyglycylation and the generation of non-tyrosinatable alpha-tubulin. Tubulin tyrosine-ligase, which reattaches tyrosine to detyrosinated tubulin, has been extensively characterized and its gene sequenced. Enzymes such as tubulin-specific carboxypeptidase and alpha-tubulin acetyltransferase, required, respectively, for detyrosination and acetylation of tubulin, have yet to be purified to homogeneity and examined in defined systems. This has produced some conflicting results, especially for the carboxypeptidase. The phosphorylation of tubulin by several different types of kinases has been studied in detail but drawing conclusions is difficult because many of these enzymes modify proteins other than their actual substrates, an especially pertinent consideration for in vitro experiments. Tubulin phosphorylation in cultured neuronal cells has proven to be the best model for evaluation of kinase effects on tubulin/microtubule function. There is little information on the enzymes required for polyglutamylolation, polyglycylation, and production of non-tyrosinatable tubulin, but the available data permit interesting speculation of a mechanistic nature. Clearly, to achieve a full appreciation of tubulin post-translational changes the responsible enzymes must be characterized. Knowing when the enzymes are active in cells, if soluble or polymerized tubulin is the preferred substrate and the amino acid residues modified by each enzyme are all important. Moreover, acquisition of purified enzymes will lead to cloning and sequencing of their genes. With this information, one can manipulate cell genomes in order to either modify key enzymes or change their relative amounts, and perhaps reveal the physiological significance of tubulin post-translational modifications.

L8 ANSWER 45 OF 45 MEDLINE on STN
ACCESSION NUMBER: 93286133 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8509419
TITLE: Saccharomyces cerevisiae cytoplasmic tyrosyl-tRNA synthetase gene. Isolation by complementation of a mutant Escherichia coli suppressor tRNA defective in

aminoacylation and sequence analysis.
 AUTHOR: Chow C M; RajBhandary U L
 CORPORATE SOURCE: Department of Biology, Massachusetts Institute of
 Technology, Cambridge 02139.
 CONTRACT NUMBER: GM17151 (NIGMS)
 SOURCE: The Journal of biological chemistry, (1993 Jun 15) Vol.
 268, No. 17, pp. 12855-63.
 Journal code: 2985121R. ISSN: 0021-9258.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: GENBANK-L12221; GENBANK-L12222; GENBANK-L12223
 ENTRY MONTH: 199307
 ENTRY DATE: Entered STN: 23 Jul 1993
 Last Updated on STN: 6 Feb 1998
 Entered Medline: 13 Jul 1993

AB Exploiting differences in tRNA recognition between prokaryotic and
 eukaryotic tyrosyl-tRNA synthetases (TyrRSs), we have isolated the gene
 for the cytoplasmic TyrRS of *Saccharomyces cerevisiae* by functional
 complementation in *Escherichia coli* of a mutant *E. coli* tRNA. The tRNA,
 derived from the *E. coli* initiator tRNA with changes to allow suppression
 of amber termination codons, is poorly aminoacylated in *E. coli* and hence,
 is only a weak amber suppressor. The same tRNA functions as a good
 suppressor in *S. cerevisiae* and is aminoacylated with tyrosine by yeast
 extracts. We expressed a yeast cDNA library in an *E. coli*
 strain carrying the mutant tRNA gene and several genes with amber
 mutations. cDNA clones were isolated which increased suppression
 and levels of aminoacylation of the mutant tRNA. Characterization of the
 gene identified a methionine-initiated open reading frame encoding a
 protein of 394 amino acids. Expression of this protein in *E.*
coli demonstrated that tyrosine was incorporated during suppression and
 that yeast cytoplasmic TyrRS activity was produced. Yeast cytoplasmic
 TyrRS has sequences typical of class I aminoacyl-tRNA synthetases, but
 only weak overall sequence similarity to the corresponding eubacterial and
 mitochondrial TyrRSs. However, many of the residues known to line the
 tyrosyl-adenylate-binding pocket of the *Bacillus stearothermophilus* enzyme
 can be aligned in the yeast sequence. These include the aspartic acid and
 tyrosine residues thought to contact the tyrosine side chain to provide
 substrate specificity.

=> d his

(FILE 'HOME' ENTERED AT 10:57:15 ON 12 MAY 2006)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
 LIFESCI' ENTERED AT 10:58:39 ON 12 MAY 2006

L1 8037 S TESTIS (2W) SPECIFIC
 L2 1048 S TYROSINE (2W) LIGASE?
 L3 7 S L1 AND L2
 L4 3 DUP REM L3 (4 DUPLICATES REMOVED)
 L5 7685185 S CLON? OR EXPRESS? OR RECOMBINANT
 L6 221 S L2 AND L5
 L7 75 S HUMAN AND L6
 L8 45 DUP REM L7 (30 DUPLICATES REMOVED)

=> s "CpG island?"

L9 22846 "CPG ISLAND?"

=> s 12 and 19

L10 12 L2 AND L9

=> dup rem 110

PROCESSING COMPLETED FOR L10
L11 10 DUP REM L10 (2 DUPLICATES REMOVED)

=> d 1-10 ibib ab

L11 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2005:156228 HCAPLUS
Correction of: 2005:16967
DOCUMENT NUMBER: 142:192331
Correction of: 142:108390
TITLE: Quantitative RT-PCR method for the detection in blood
of microarray-identified rheumatoid arthritis-related
gene transcripts for diagnosing and monitoring disease
state
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 81 pp., Cont.-in-part of U.S.
Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2005003394 | A1 | 20050106 | US 2004-812782 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood for diagnosing and monitoring diseases. The present invention demonstrates that a simple drop of blood may be used to determine the quant. expression of various mRNAs that reflect the health/disease state of the subject through the use of quant. reverse transcription-polymerase chain reaction (QRT-PCR) anal. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring rheumatoid arthritis using gene-specific and/or tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L11 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:497356 HCAPLUS
DOCUMENT NUMBER: 143:39118
TITLE: Gene expression profiling for diagnosis, prognosis,
and therapy of osteoarthritis and other diseases using
microarrays
INVENTOR(S): Liew, Choong-chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 157 pp., Cont.-in-part of U.S.
Ser. No. 802,875.
CODEN: USXXCO

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 29
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|-------------|
| US 2005123938 | A1 | 20050609 | US 2004-809675 | 20040325 |
| US 2004037841 | A1 | 20040226 | US 2002-85783 | 20020228 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004248169 | A1 | 20041209 | US 2004-812737 | 20040330 |
| AU 2004249318 | A1 | 20041229 | AU 2004-249318 | 20040621 |
| CA 2530191 | AA | 20041229 | CA 2004-2530191 | 20040621 |
| WO 2004112589 | A2 | 20041229 | WO 2004-US20836 | 20040621 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1643893 | A2 | 20060412 | EP 2004-785715 | 20040621 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR | | | | |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2001-271955P | P 20010228 |
| | | | US 2001-275017P | P 20010312 |
| | | | US 2001-305340P | P 20010713 |
| | | | US 2002-85783 | A2 20020228 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |
| | | | US 2004-809675 | A 20040325 |
| | | | WO 2004-US20836 | W 20040621 |

AB The present invention relates to gene expression profiling for diagnosis, prognosis and therapy of osteoarthritis and other diseases using microarray methods. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.].

DOCUMENT NUMBER: 142:353388
 TITLE: Gene expression profiles and biomarkers for the detection of Alzheimer's disease-related and other disease-related gene transcripts in blood
 INVENTOR(S): Liew, Choong-chin
 PATENT ASSIGNEE(S): Chondrogene Ltd., Can.
 SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 29
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2005079514 | A1 | 20050414 | US 2004-812827 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular Alzheimer's disease, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L11 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:160724 HCAPLUS
 DOCUMENT NUMBER: 142:259424
 TITLE: Gene expression profiles and biomarkers for the detection of asthma-related and other disease-related gene transcripts in blood
 INVENTOR(S): Liew, Choong-Chin
 PATENT ASSIGNEE(S): Chondrogene Limited, Can.
 SOURCE: U.S. Pat. Appl. Publ., 156 pp., Cont.-in-part of U.S. Ser. No. 802,875.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 29
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2005042630 | A1 | 20050224 | US 2004-816357 | 20040401 |

| | | | | |
|---------------|----|----------|----------------|----------|
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |

PRIORITY APPLN. INFO.:

| | | |
|-----------------|----|----------|
| US 1999-115125P | P | 19990106 |
| US 2000-477148 | B1 | 20000104 |
| US 2002-268730 | A2 | 20021009 |
| US 2003-601518 | A2 | 20030620 |
| US 2004-802875 | A2 | 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular asthma, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of three records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L11 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2005:156681 HCAPLUS
Correction of: 2005:60757

DOCUMENT NUMBER: 142:216629
Correction of: 142:132329

TITLE: Gene expression profiles and biomarkers for the detection of hyperlipidemia and other disease-related gene transcripts in blood

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| ----- | ---- | ----- | ----- | ----- |
| US 2004248170 | A1 | 20041209 | US 2004-812777 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |

PRIORITY APPLN. INFO.:

| | | |
|-----------------|----|----------|
| US 1999-115125P | P | 19990106 |
| US 2000-477148 | B1 | 20000104 |
| US 2002-268730 | A2 | 20021009 |
| US 2003-601518 | A2 | 20030620 |
| US 2004-802875 | A2 | 20040312 |

AB The present invention is directed to detection and measurement of gene

transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular hyperlipidemia, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L11 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1997 HCAPLUS

DOCUMENT NUMBER: 142:111841

TITLE: Gene expression profiles and biomarkers for the detection of depression-related and other disease-related gene transcripts in blood

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 154 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004265868 | A1 | 20041230 | US 2004-812702 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular mental depression, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L11 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60760 HCAPLUS

Correction of: 2004:1036573
DOCUMENT NUMBER: 142:153477
Correction of: 142:16776
TITLE: Gene expression profiles and biomarkers for the detection of Chagas disease and other disease-related gene transcripts in blood
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 154 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241729 | A1 | 20041202 | US 2004-813097 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular Chagas disease, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L11 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60759 HCAPLUS
Correction of: 2004:1036572

DOCUMENT NUMBER: 142:111840
Correction of: 142:16824

TITLE: Gene expression profiles and biomarkers for the detection of lung disease-related and other disease-related gene transcripts in blood
INVENTOR(S): Liew, Choong-Chin
PATENT ASSIGNEE(S): Chondrogene Limited, Can.
SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241728 | A1 | 20041202 | US 2004-812764 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

L11 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60754 HCAPLUS
Correction of: 2004:1036571

DOCUMENT NUMBER: 142:233342
Correction of: 142:16836

TITLE: Sequences of human schizophrenia related genes and use for diagnosis, prognosis and therapy

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 156 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241727 | A1 | 20041202 | US 2004-812731 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| US 2005208519 | A1 | 20050922 | US 2004-989191 | 20041115 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |

US 2003-601518 A2 20030620
 US 2004-802875 A2 20040312
 US 2004-812731 A2 20040330
 WO 2004-US20836 A2 20040621

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing and monitoring diseases using gene-specific and/or tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]

L11 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:60755 HCAPLUS
 Correction of: 2004:1036570

DOCUMENT NUMBER: 142:154259
 Correction of: 142:36938

TITLE: Analysis of genetic information contained in peripheral blood for diagnosis, prognosis and monitoring treatment of allergy, infection and genetic disease in human

INVENTOR(S): Liew, Choong-Chin

PATENT ASSIGNEE(S): Chondrogene Limited, Can.

SOURCE: U.S. Pat. Appl. Publ., 155 pp., Cont.-in-part of U.S. Ser. No. 802,875.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 29

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004241726 | A1 | 20041202 | US 2004-812707 | 20040330 |
| US 2004014059 | A1 | 20040122 | US 2002-268730 | 20021009 |
| US 2005191637 | A1 | 20050901 | US 2004-803737 | 20040318 |
| US 2005196762 | A1 | 20050908 | US 2004-803759 | 20040318 |
| US 2005196763 | A1 | 20050908 | US 2004-803857 | 20040318 |
| US 2005196764 | A1 | 20050908 | US 2004-803858 | 20040318 |
| US 2005208505 | A1 | 20050922 | US 2004-803648 | 20040318 |
| US 2004265869 | A1 | 20041230 | US 2004-812716 | 20040330 |
| PRIORITY APPLN. INFO.: | | | US 1999-115125P | P 19990106 |
| | | | US 2000-477148 | B1 20000104 |
| | | | US 2002-268730 | A2 20021009 |
| | | | US 2003-601518 | A2 20030620 |
| | | | US 2004-802875 | A2 20040312 |

AB The present invention is directed to detection and measurement of gene transcripts and their equivalent nucleic acid products in blood. Specifically provided is anal. performed on a drop of blood for detecting, diagnosing, and monitoring diseases, and in particular allergy, using gene-specific and/or tissue-specific primers. Affymetrix Human Genome U133 and ChondroChip microarrays were used to detect differentially expressed gene transcripts in hypertension, obesity, allergy, systemic steroids, coronary artery disease, diabetes type 2, hyperlipidemia, lung disease, bladder cancer, rheumatoid arthritis, osteoarthritis, liver cancer, schizophrenia, Chagas disease, asthma, and manic depression syndrome. The present invention describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-specific genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen. [This abstract record

is one of 3 records for this document necessitated by the large number of index entries required to fully index the document and publication system constraints.]].

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| E6 | 1 | FEDER JAN DAVID/AU |
| E7 | 1 | FEDER JEAN M/AU |
| E8 | 3 | FEDER JEAN MARC/AU |
| E9 | 61 | FEDER JEFFREY L/AU |
| E10 | 88 | FEDER JENS/AU |
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| E12 | 2 | FEDER JOHANN G/AU |

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| E6 | 1 | KRYSTEK STANELY/AU |
| E7 | 20 | KRYSTEK STANLEY/AU |

E8 12 KRYSTEK STANLEY JR/AU
E9 33 KRYSTEK STANLEY R/AU
E10 33 KRYSTEK STANLEY R JR/AU
E11 1 KRYSTEK STANLEY RICHARD JR/AU
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L15 204 ("KRYSTEK S R"/AU OR "KRYSTEK S R JR"/AU OR "KRYSTEK STAN"/AU
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STANLEY JR"/AU OR "KRYSTEK STANLEY R"/AU OR "KRYSTEK STANLEY R
JR"/AU OR "KRYSTEK STANLEY RICHARD JR"/AU OR "KRYSTEK STANLY R
JR"/AU)

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(FILE 'HOME' ENTERED AT 10:57:15 ON 12 MAY 2006)

FILE 'MEDLINE; EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 10:58:39 ON 12 MAY 2006

L1 8037 S TESTIS (2W) SPECIFIC
L2 1048 S TYROSINE (2W) LIGASE?
L3 7 S L1 AND L2
L4 3 DUP REM L3 (4 DUPLICATES REMOVED)
L5 7685185 S CLON? OR EXPRESS? OR RECOMBINANT
L6 221 S L2 AND L5
L7 75 S HUMAN AND L6
L8 45 DUP REM L7 (30 DUPLICATES REMOVED)
L9 22846 S "CPG ISLAND?"
L10 12 S L2 AND L9
L11 10 DUP REM L10 (2 DUPLICATES REMOVED)
E FEDER J N/AU
L12 187 S E3
E NELSON T C/AU
L13 130 S E3
E WU S/AU
L14 3643 S E3
E KRYSTEK S R/AU
L15 204 S E3-E12

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L16 4127 L12 OR L13 OR L14 OR L15

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L17 2 L2 AND L16

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L17 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN

ACCESSION NUMBER: 2004-07314 BIOTECHDS

TITLE: New testis-specific tubulin tyrosine-ligase
-like BGS-42 polypeptide, useful for preventing, treating or
ameliorating a medical condition, e.g. aberrant cellular
proliferation, reproductive disorders or testicular disorders

;

involving vector-mediated gene transfer, expression in
host cell for use in gene therapy

AUTHOR: FEDER J N; WU S; NELSON T C

PATENT ASSIGNEE: BRISTOL-MYERS SQUIBB CO

PATENT INFO: WO 2004005487 15 Jan 2004

APPLICATION INFO: WO 2003-US21605 9 Jul 2003

PRIORITY INFO: US 2002-394725 9 Jul 2002; US 2002-394725 9 Jul 2002

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2004-099381 [10]

AB

DERWENT ABSTRACT:

NOVELTY - A testis-specific tubulin tyrosine-ligase-like polypeptide, designated BGS-42 polypeptide, is new.

DETAILED DESCRIPTION - A testis-specific tubulin tyrosine-ligase-like polypeptide, designated BGS-42 polypeptide comprises or consists of: (a) a polypeptide fragment, domain, epitope or the full-length protein of a fully defined sequence of 541 amino acids (I), as given in the specification, or the encoded sequence included in ATCC Deposit Number PTA-4454, having tyrosine tubulin ligase activity; (b) a polypeptide comprising amino acids 2-541 of the sequence of (I), where the amino acids 2-541 comprises a polypeptide of (I) minus the start methionine; (c) a polypeptide comprising amino acids 1-541 or 73-365 of the sequence of (I); or (d) a polypeptide comprising at least 424 contiguous amino acids of the sequence of (I). INDEPENDENT CLAIMS are also included for: (1) an isolated nucleic acid molecule comprising or consisting of: (a) a polynucleotide fragment of 1838 bp (II), fully defined in the specification, or a polynucleotide fragment of the cDNA sequence included in ATCC Deposit Number PTA-4454, which is hybridizable to the sequence of (II); (b) a polynucleotide encoding a polypeptide fragment, domain, epitope or the full-length protein of the sequence of (I), or a polypeptide fragment, domain or epitope encoded by the cDNA sequence included in ATCC Deposit Number PTA-4454, which is hybridizable to the sequence of (II), having tyrosine tubulin ligase activity; (c) a polynucleotide which is a variant or an allelic variant of (II); (d) nucleotides 156-1775 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 2-541 of (I) minus the start methionine; (e) nucleotides 153-1775 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 1-541 of (I) including the start codon; (f) nucleotides 369-1247 of the sequence of (II), where the nucleotides encode a polypeptide corresponding to amino acids 73-365 of (I); (g) a polynucleotide that encodes at least 424 contiguous amino acids of (I); (h) at least 1272 contiguous nucleotides of (II); (i) a polynucleotide which represents the complementary sequence (antisense) of (II); (j) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides above, where the polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A or only T residues; (k) a polynucleotide comprising or consisting of the BGS-42 gene or BGS-42 promoter; or (l) a nucleotide sequence of 2241 bp, fully defined in the specification; (2) a recombinant vector comprising the isolated nucleic acid molecule; (3) an isolated antibody that binds specifically to BGS-42 polypeptide; (4) a recombinant host cell comprising the vector sequences, or expressing the BGS-42 polypeptide; (5) making an isolated polypeptide; (6) preventing, treating or ameliorating a medical condition; and (7) diagnosing a pathological condition or a susceptibility to a pathological condition in a subject.

WIDER DISCLOSURE - Also disclosed are screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides, and methods of controlling the expression of the polypeptide.

BIOTECHNOLOGY - Preparation (claimed): The BGS-42 polypeptide is prepared by standard recombinant methods. Making an isolated polypeptide comprises culturing the recombinant host cell under conditions such that the polypeptide is expressed, and recovering the polypeptide. Preferred Polypeptide: The full-length protein comprises sequential amino acid deletions from the C-terminus or the N-terminus. Preferred Nucleic Acid: The polynucleotide fragment consists of a nucleotide sequence encoding a human tyrosine tubulin ligase. Preferred Method:

Preventing, treating or ameliorating a medical condition comprises administering to a mammalian subject a therapeutic amount of the BGS-42 polypeptide or its modulator. Diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprises determining the presence or absence of a mutation in the polynucleotide

cited above, and diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of the mutation. Alternatively, the method comprises determining the presence or amount of expression of the BGS-42 polypeptide in a **tyrosine tubulin ligase** sample, and diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

ACTIVITY - Cytostatic; Respiratory-Gen.; Gastrointestinal-Gen.; Neuroprotective; Endocrine-Gen.; Antiinflammatory; Anabolic; Hypertensive; Osteopathic; Nootropic; Antiparkinsonian; Antiarthritic; Antiasthmatic; Anti-HIV; Antibacterial; Immunosuppressive; Antiseborrheic; Dermatological. No biological data given.

MECHANISM OF ACTION - **Tyrosine Ligase** Modulator; Gene Therapy. No biological data given.

USE - The BGS-42 polypeptide or polynucleotide can be used for diagnosing a pathological condition or a susceptibility to a pathological condition in a subject, and for preventing, treating or ameliorating a medical condition, such as a disorder related to aberrant tubulin ligase activity, a disorder related to aberrant tubulin-carboxypeptidase activity, aberrant cellular proliferation, reproductive disorders, testicular disorders, testicular cancer, pulmonary disorders, lung cancer, gastrointestinal disorders, colon cancer, stomach cancer, neural disorders, brain cancer, liver cancer, or proliferative condition of the testis, lung, small intestine, brain or lymph tissue (all claimed). The BGS-42 polypeptide, polynucleotide, or their modulators are also useful for treating infertility, Cushing's syndrome, emphysema, pneumonia, Addison's disease, acromegaly, Alzheimer's disease, or Parkinson's disease. The BGS-42 polypeptide can be used as a preventive agent for immunological disorders including arthritis, asthma, AIDS, sepsis, acne, Sjogren's disease or scleroderma. The antibodies may be used to purify, detect and target the BGS-42 polypeptides.

ADMINISTRATION - Administration of the antibody is 0.1-100 (preferably 1-10) mg/kg, intradermally, intramuscularly, intraperitoneally, intravenously, subcutaneously, intranasally, epidurally, intraventricularly, intrathecally, topically, orally, or rectally.

EXAMPLE - A polynucleotide encoding a BGS-42 polypeptide was amplified using PCR oligonucleotide primers corresponding to the 5' and 3' ends of the DNA sequence to synthesize insertion fragments. The pQE-9 vector was digested with BamHI and XbaI and the amplified fragment was ligated into the pQE-9 vector maintaining the reading frame initiated at the bacterial ribosome-binding site. The ligation mixture was used to transform Escherichia coli strain M15/rep4. Transformants were identified by their ability to grow on LB (Luria bertani) plates, and ampicillin/kanamycin-resistant colonies were selected. Clones containing the desired constructs were grown overnight in liquid culture, i.e. LB media, supplemented with both ampicillin and kanamycin. Isopropyl-B-D-thiogalacto pyranoside (IPTG) was added to induce gene expression. Cells were grown for an extra 3-4 hours, and cells were harvested by centrifugation. The cell pellet obtained by centrifugation was solubilized, and the solubilized BGS-42 protein was purified using a metal chelating column under conditions that allow tight binding of the protein. (343 pages)

L17 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:722839 HCAPLUS

DOCUMENT NUMBER: 141:238811

TITLE: Protein and cDNA sequences of a novel human testis-specific tubulin **tyrosine ligase** like protein BGS-42, and diagnostic and therapeutic use

INVENTOR(S): Feder, John N.; Nelson, Thomas C.; Wu, Shujian; Krystek, Stanley R.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 199 pp., Cont.-in-part of U.S. Ser. No. 615,659.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| US 2004171131 | A1 | 20040902 | US 2003-635977 | 20030807 |
| US 2004157234 | A1 | 20040812 | US 2003-615659 | 20030709 |
| PRIORITY APPLN. INFO.: | | | US 2002-394725P | P 20020709 |
| | | | US 2003-615659 | A2 20030709 |

AB The present invention provides novel polynucleotides encoding BGS-42 polypeptides, fragments and homologues thereof Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel BGS-42 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 10:58:39 ON 12 MAY 2006

L1 8037 S TESTIS (2W) SPECIFIC
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 L3 7 S L1 AND L2
 L4 3 DUP REM L3 (4 DUPLICATES REMOVED)
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 L6 221 S L2 AND L5
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 L8 45 DUP REM L7 (30 DUPLICATES REMOVED)
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 E NELSON T C/AU
 L13 130 S E3
 E WU S/AU
 L14 3643 S E3
 E KRYSTEK S R/AU
 L15 204 S E3-E12
 L16 4127 S L12 OR L13 OR L14 OR L15
 L17 2 S L2 AND L16

| | Issue Date | Page s | Document ID | Title |
|---|---------------|-----------|--------------------------|--|
| 1 | 20060209 | 162 | US 2006002994 5 A1 | Novel full length cDNA |
| 2 | 20040902 | 199 | US 2004017113 1 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine- ligase-like protein, BGS42 |
| 3 | 20040812 | 171 | US 2004015723 4 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine- ligase-like protein, BGS42 |
| 4 | 20040108 | 165 | US 2004000556 0 A1 | Novel full-length cDNA |
| 5 | 20050913 | 138 | US 6943241 B2 | Full-length cDNA |

| | Issue Date | Page s | Document ID | Title |
|---|---------------|-----------|--------------------------|---|
| 1 | 20060406 | 500 | US 2006007456 5 A1 | Methods, systems, and compositions for classification, prognosis, and diagnosis of cancers |
| 2 | 20060209 | 162 | US 2006002994 5 A1 | Novel full length cDNA |
| 3 | 20040902 | 199 | US 2004017113 1 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine- ligase-like protein, BGS42 |
| 4 | 20040812 | 171 | US 2004015723 4 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine- ligase-like protein, BGS42 |
| 5 | 20040108 | 165 | US 2004000556 0 A1 | Novel full-length cDNA |
| 6 | 20031211 | 206 | US 2003022857 0 A1 | Methods of diagnosis of Hepatitis C infection, compositions and methods of screening for modulators of Hepatitis C infection |
| 7 | 20050913 | 138 | US 6943241 B2 | Full-length cDNA |
| 8 | 20040831 | 93 | US 6783969 B1 | Cathepsin V-like polypeptides |

| | Issue Date | Pages | Document ID | Title |
|---|------------|-------|--------------------|--|
| 1 | 20060316 | 40 | US 2006005706 6 A1 | Reagent sets and gene signatures for renal tubule injury |
| 2 | 20040902 | 199 | US 2004017113 1 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine-ligase-like protein, BGS42 |
| 3 | 20040812 | 171 | US 2004015723 4 A1 | Polynucleotides encoding a novel testis-specific tubulin tyrosine-ligase-like protein, BGS42 |
| 4 | 20040701 | 105 | US 2004012676 2 A1 | Novel compositions and methods in cancer |
| 5 | 20040122 | 250 | US 2004001405 3 A1 | Novel proteins and nucleic acids encoding same |
| 6 | 20031211 | 206 | US 2003022857 0 A1 | Methods of diagnosis of Hepatitis C infection, compositions and methods of screening for modulators of Hepatitis C infection |
| 7 | 20030320 | 196 | US 2003005442 1 A1 | Nucleic acids, proteins, and antibodies |
| 8 | 20040831 | 93 | US 6783969 B1 | Cathepsin V-like polypeptides |

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| 1 | L1 | 642 | testis adj specific |
| 2 | L2 | 18 | tyrosine adj ligase\$2 |
| 3 | L3 | 5 | l1 same l2 |
| 4 | L4 | 8413 03 | clon\$3 or express\$3 or recombinant |
| 5 | L5 | 8 | l2 same l4 |
| 6 | L6 | 0 | "CPG island\$2" |
| 7 | L7 | 1739 38 | FEDER NELSON WU KRYSTEK |
| 8 | L8 | 8 | l2 and l7 |